AIR CONDITIONING & REFRIGERATION NEWS
The Newspaper of the Industry
Subscription Price, $6 Per Year Vol. 79, No. 10, Serial No. 1,442 November 5, 1956
Issued every Monday at 450 West Fort St., Detroit 26, Michigan
Established 1926
Member, Associated Business Publications ABP ABC Member, Audit Bureau of Circulations
Reentered as second class matter October 3, 1936 at the post office at Detroit, Mich., under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright 1956, by Business News Publishing Co.

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Story of the Week
Living Legend
Progress Report
Is Air Conditioning Ruining Texas?
Who Will Neutralize Freezers?
Carrier's 'Learn While You Earn' Programs

Story of the Week

Young and eager preacher, reared in bluenose Boston, was against sin in all its forms. Matter of fact, he was against almost everything.

His first Sunday in a bluegrass Kentucky pastorate he condemned gambling, with especial emphasis on horse racing. Quickly he was informed by the deacons that racehorse breeding was the way most of his parishioners earned their livelihood.

Next sermon he devoted to the evils of smoking and drinking. Again he was warned. Kentucky was the home of bourbon whiskey and burley tobacco, and dadgummit, he should speak of them kindly.

Exasperatedly the new preacher asked the deacons to suggest a topic for his third sermon.

"You could," he was told, "give the Chinese hell, or the Republicans. We ain't got none of neither in this church."

Living Legend

Not far from Greenville, Michigan (home of Gibson) is a modern shrine. It is the tiny town of Reed City, on the outskirts of which lives 83-year-old Rev. George Bennard.

He wrote possibly the most-often-sung religious hymn of all time, "The Old Rugged Cross."

Recently "Dope" paused on a business trip to pay brief homage (along with many other travelers) to this octogenarian "living legend." Happy to report he's lively as a bird, and not much bigger (5 ft. 3, 98 lbs.).

He still conducts revival meetings, writes hymns, and sings with vigor. What an inspiration!

Progress Report

The Smithsonian Torch, published by the Smithsonian Institution in Washington, D. C., suggests a time-saving standardized "progress report":

"During the period ending (fill in appropriate date) considerable progress has been made in the preliminary work directed toward the establishment of initial objectives. (We are getting ready to start, but we haven't done anything yet.)

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Possibilities and Probabilities For Gas Air Conditioning

Thus far the electrical industry has had the air conditioning field pretty much to itself. True, gas-powered air conditioning installations (chiefly absorption systems) have made local appearances. Gas engines are powering conventional air conditioners, also. But on no large scale.

There are rumblings that this situation may be altered soon. Possibly next year (and certainly within the next few years) the gas industry plans to enter the race for air conditioning business in a substantial manner.

That summer cooling market looks particularly good to the gas industry, because it could become a means of balancing its presently large and obviously growing winter home heating business. Year-round air conditioning, in time, might erase some of the gas industry's seasonal fuel distribution and storage headaches.

Furthermore, every time an electric year-round home air conditioner is installed in a residence, it cuts into the

(Concluded on Page 18)

Frigidaire Line Features 'Sheer Look' for 1957

DAYTON — Appliances for 1957 with a new "Sheer Look" were announced last week by Herman F. Lehman, General Motors vice president and general manager of Frigidaire.

Lehman said the new Sheer Look concept embodies clean, uncluttered, squared-up styling lines in new refrigerators, electric ranges, food freezers, automatic washers and dryers. Most significant change in the refrigerators is in the door, which is inset in the cabinet.

It was rumored in the trade that prices on the new products have been raised 5 to 6%.

"Frigidaire's free-standing appliances are designed to give the kitchen a built-in look."

(Continued on Page 20, Col. 3)

Avco To Drop Appliances; Cites Losses

Announcement of Bendix Laundry Business Sale Expected Within 30 Days

NEW YORK CITY — Avco Mfg. Corp. announced last week that its Crosley & Bendix Home Appliances Divs., on Nov. 30, will discontinue their appliance, radio, and television set businesses, "which have shown substantial losses."

In a letter to stockholders, Victor Emanuel, chairman and president of Avco, said negotiations are being concluded with a major appliance manufacturer for the sale of the Bendix home laundry business. Announcement of the conclusion of these negotiations is expected within 30 days, he said.

Emanuel did not name the prospective buyer. However, some published reports stated "it is known that Philco Corp. is the concern seeking to acquire Bendix."

It is understood that such a transaction will not involve any of Avco's physical assets such as plants and that the sale contract will contain a manufacturing agreement under which Avco will produce at least part of the Philco-Bendix laundry line at its Nashville plant.

Last week, a Philco spokesman was quoted as saying that the company will hold a national distributor convention in Chicago's Conrad Hilton hotel on Nov. 16. But he said he wasn't "at liberty" to disclose the purpose of the convention.

In a letter to some 75 distributors, Chester G. Gifford, vice president of Avco and president of the Crosley and Bendix Home Appliances Divs., said all planned manufacturing runs on Crosley merchandise "have been

(Concluded on Page 3, Col. 1)

Attic-Type Home Unit Leads 1957 Gibson Line

HOLLYWOOD, Fla. — New "Gibson-Omni" all-purpose attic-type residential air conditioners with prefabricated ductwork in 2-ton and 3½-ton sizes highlight the 1957 Gibson line of central air conditioners, heat pumps, and warm air furnaces introduced to distributors here.

Distributors were also shown these other 1957 products:

Eleven Gibson room air conditioners—a five-model "Deluxeline," and a new "Trimline" series measuring 26 in. wide, 17 in. deep, and 20½ in. high.

Eight refrigerator models with many interior color choices.

Two upright freezers.

Six free-standing electric ranges, five built-in ovens, and three built-in and two set-in surface units.

Earl Palmer, manager of central air conditioning sales pre-

(Continued on Page 16, Col. 1)

ARW Convention Coverage

A "cover story" on the annual convention of the Air Conditioning & Refrigeration Wholesalers Association, with details of plans for a series of "Product Knowledge Clinics," appears on page 19 of this issue. Also included are the results of a poll to determine how many members have entered the heating field, and how far they have progressed into it.

Room Unit Sales Up 78% For Sept. In Phila. Area

PHILADELPHIA — September sales of room air conditioners rose 78% over the same month in 1955, distributors servicing the five Pennsylvania counties surrounding Philadel-

(Concluded on Page 4, Col. 1)

ASRE To Offer Diversified Technical Program at Boston Meeting Nov. 26-28

NEW YORK CITY—A diversified technical program will highlight the 43rd semiannual meeting of the American Society of Refrigerating Engineers to be held in Boston Nov. 26-28 at the Statler hotel.

Some 800 delegates, guests, and other representatives of the air conditioning and refrigeration industries in the United States and Canada are expected to attend.

In addition to four technical sessions, the technical program will include an air conditioning conference, a domestic refrigerator engineering conference, a conference on "Field Installation Practices and Problems," and six technical forums covering controversial and other timely subjects.

Program Committee Chairman F. Y. Carter, Detroit Controls Corp., has announced the following program schedule:

MONDAY A.M., NOV. 26

First Technical Session

"Film Condensation of Vapor in a Horizontal Tube," Prof. J. B. Chaddock, assistant professor of mechanical engineering, Massachusetts Institute of Technology.

"Graphical Method Simplifies Determination of Air Coil Wet Heat Transfer Surface Tempera-

(Concluded on Back Page, Col. 1)

Kennecott, Anaconda Cut Copper Price 4¢

NEW YORK CITY—Following the lead of Phelps Dodge Corp., the other two major U. S. copper producers — Kennecott Copper Corp. and Anaconda Co. —recently reduced their price of copper 4 cents a pound to 36 cents.

But statements by some steel industry executives indicated that another steel price increase may be in the offing.

After Phelps Dodge cut its copper price, Viking Copper Tube Co., Cleveland, producer of thin-walled tubing for the air

(Concluded on Page 4, Col. 3)

Amana Survey Shows

Central Air Conditioning Can Be Balanced Year-Round Business

AMANA, Iowa—Central air conditioning can be a substantial year-round business by keeping closer pace with home building and home modernization activity throughout the year—even in the "off months."

This is the conclusion of E. W. Lyon, director of air conditioner sales for Amana Refrigeration, Inc., who has just completed a survey of market potential for residential central-system air conditioning.

If the industry follows the 1955 sales pattern, the last quarter of the year will represent only 12.8% of central air conditioner business, and the first quarter of 1957 will constitute 15.9% of that year's volume, Lyon said. But, almost half of the volume, or 47.6% will be registered in the second quarter of the year.

Based on estimates of 200,000 units to be sold in 1956, and 300,000 in 1957, this will mean 25,600 units in the fourth quarter of 1956, 47,700 in the first quarter of 1957—and 142,800 in the second quarter of the year, it was pointed out.

But a more balanced year-round business is possible, Lyon

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Purdue Refrigeration, Climate Control Center Cites Progress On Fund Goal

LAFAYETTE, Ind. — Purdue university has acknowledged receipt of two free grants, totalling $18,000, to support its newly-formed national center for research on refrigeration and climate control and their effects on humans and animals.

Both gifts, to be used over the initial three-year period of the Research Center's life, are for $3,000 per year.

One of the initial grants came from Addison Products Co., Addison, Mich., the other from Revco, Inc.

Made possible by an initial grant of $300,000 from Tecumseh Products Co., the Purdue Center for Refrigeration and Climate Control has begun a major fund campaign reaching for a total of over $1,000,000 with which to complete the necessary buildings and instrumentation and to carry out the initial three-year research program.

Purdue itself has nearly matched the Tecumseh grant, making available $252,500. With the Addison and Revco grants, available funds now total $570,500, with an additional $582,000 still being sought.

Major product of the new national Research Center will come in two forms:

(1) Trained manpower with up-to-the-minute graduate education in refrigeration and air conditioning engineering and in human and animal environmental physiology, and;

(2) Basic and applied information about refrigeration and air conditioning and their various potential applications.

American Motors Ups Chapman to Exec. V.P.

DETROIT—American Motors Corp. has announced several executive changes, including the election of B. A. Chapman, former vice president of operations, as executive vice president and general manager of the appliance division.

In another change, Charles T. Lawson, executive vice president, appliance division, joins the staff of George Romney, American Motors president, as vice president.

The company also eliminated its export and subsidiaries division, dividing its activities among the remaining appliance, automotive, and special products divisions.

The company's increased interest in export markets made the closer coordination of export with domestic operations desirable, Romney said.

Procedures, Techniques In Porcelain Enameling To Lead Nov. 7-9 Forum

WASHINGTON, D. C. — A program designed to present the newest procedures and techniques in porcelain enameling has been developed for the 18th Annual Shop Practice Forum of the Porcelain Enamel Institute, according to John C. Oliver, managing director of PEI.

This year's three-day session will be held Nov. 7-9 at the University of Illinois, Urbana, Ill. Handling university arrangements for the meeting will be Dr. A. L. Friedberg of the Dept. of Ceramic Engineering.

More than 40 recognized industry authorities will participate in this year's presentation, according to the Forum's Program Committee Chairman, E. E. Howe of the Chicago Vitreous Corp.

Some of the topics to be covered at the 1956 Forum include, "The Market For Porcelain Enamel," "Low Temperature Porcelain Enamels," "Industry Test Methods," and the important new field of "Porcelain Enamel on Aluminum."

In addition, the program calls for discussion of "Metal Preparation," "Milling," "Porcelain Enamel Application," and "Firing." Winding up the conference on Nov. 9 will be a general interest symposium.

Further details on the entire program and registration requirements are available from the Porcelain Enamel Institute, 1145 Nineteenth St., N.W., Washington 6, D. C.

Servel's 'All-Year' Div. Names Eskew Sales Chief, Ups Davidson

EVANSVILLE, Ind. — Appointment of two veteran employes to top jobs in the "All-Year" Air Conditioning Div. of Servel, Inc., was announced recently.

Robert K. Eskew, former chief engineer for air conditioning products, was named sales manager of the division, and John N. Davidson, former manager of Servel's Defense Div., succeeds Eskew as chief engineer.

The appointments were announced by A. J. DeFino, vice president of Servel and general manager of the "All-Year" Air Conditioning Div.

Eskew is a veteran of 23 years' experience in sales, field service, manufacturing, and engineering at Servel, and was one of the first members of the company's air conditioning organization.

Starting at Servel in 1927 as a tester, Eskew has been with the company ever since, except for a year and a half (1934-1935) with Peerless Corp., Chicago, manufacturer of refrigeration and air conditioning accessories, and a period from 1950 to early 1955, during which he served first as sales manager for a distributing subsidiary of York Corp., and later as part-owner of a Servel air conditioning distributorship in New York City.

Davidson joined the company 26 years ago, and was first employed in Servel's New York laboratories before coming to Evansville. He aided in the development of Servel's first air-cooled gas refrigerator.

In 1952, Davidson was placed in charge of F-84 Thunderjet wing production and other defense work. He continued as manager of the Defense Div. until last month when he became a member of the staff of Servel's president.

3 Ore Ships To Have Cooled Crew Quarters

NEW YORK CITY — Announcing the awarding of a contract to a German firm for the construction of three 16,000-ton ore ships, Olin Revere Metals Corp. said the new ships will have air conditioned accommodations for 35 crew members.

100 TON BARRIER

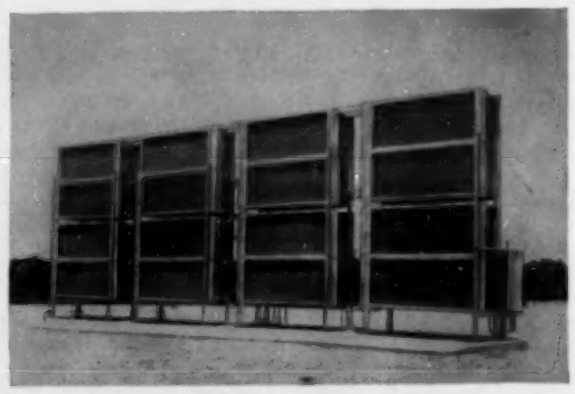
100 TON BARRIER

Crashing the 100 ton barrier

with KRAMER

UNICON

in semi-tropical climate



UNICON SUCCESSFULLY MET THE TEST THROUGH THE SEVERE SUMMER OF 1955

You, too, can crash the big tonnage barriers with UNICON, the industry's finest remote-type air-cooled condenser. Put Kramer's 18 years of "treasured know-how" in the proper use of air as a condenser coolant to work for you.

Photo of Kramer UNICONS mounted on roof of Handy-Andy Supermarket in San Antonio, Texas, used with 100 ton air conditioning system. Supplied through United Supply Co., of San Antonio and installed under the direction of Harold Vogt.

Write for Bulletin U-210-L

KRAMER

KRAMER TRENTON COMPANY
Trenton 5, New Jersey

For more information about products advertised on this page use Information Center, page 26.

Avco Will Drop Appliances--

(Concluded from Page 1, Col. 5)

completed and for the most part inventory balances have been sold. Lists of currently available merchandise in these classifications, together with current prices, are attached herewith."

Listed were: refrigerators—3,400; freezers—85; ranges—none; VHF television—1,400; UHF television—500; table radios—16,000.

Gifford also told the distributors: "We will continue temporarily to manufacture, and offer to you, Bendix laundry equipment. However, unless unforeseeable circumstances arise, we intend to make an announcement within the next 30 days of the sale of our Bendix home appliance business to a leading appliance company.

"If this comes to pass as expected, we will, of necessity, have to cancel our franchise with you at that time, as there would be no more merchandise available from us."

'Adequate Provision' Made To Continue Parts and Service

The letter continued: "We are very conscious of our responsibilities for warranties on all of our products, and can assure you and all of our customers that adequate provisions will be made for the continued availability of parts and service in a manner comparable to that which has been carried on in the past."

Avco acquired Crosley in 1945 and Bendix in 1950. In 1952, Avco decided to merge the two divisions and market their products through single area distribution. Previously, Crosley products were handled by independent distributors and factory branches.

It was also decided to expand both lines. Laundry equipment was added to Crosley refrigeration products and refrigeration to Bendix laundry items.

Avco To Carry On In Commercial, Industrial, Defense Work, Broadcasting

In his report to stockholders, Emanuel said Avco will "devote its resources to its profitable and rapidly-expanding commercial, industrial, defense, and broadcasting operations."

He said the decision to discontinue Crosley and Bendix consumer products "is the outgrowth of an industry-wide situation. Since 1953 competition in the major home appliance and radio-television set business has become increasingly severe.

"The appliance industry is plagued with large over-capacities and has been rampant with price-cutting despite rising costs of labor, material, and most other items that enter into the business. As a consequence a large number of manufacturers have withdrawn from the field."

Avco's American Kitchens Div.; its Canadian subsidiary, Moffats, Ltd.; and the other divisions of the company are not affected by Avco's action.

Emanuel said the American Kitchens Div. "will continue its business of manufacturing and distributing steel sinks, cabinets, and dishwashers, in which profit outlook is more promising, and plans are under way to increase the division's participation in defense production."

He said Moffats will continue its business in ranges, commercial cooking equipment, laundry and refrigeration appliances, cabinets, and heating equipment.

Keco To Move Into Double Production Plant Dec. 1; Names Strong Western Div. Manager

CINCINNATI — Keco Industries, Inc., through its president, Robert G. Adair, announced the acquisition of a new Cincinnati plant at 2438 Beekman St. into which the company will transfer its operation on Dec. 1.

The new facility, with 60,000 ft. of production space and 20,000 ft. of engineering and office facilities, more than doubles Keco's production and engineering capacity.

The company produces special application refrigeration and air conditioning equipment, a large portion of its work being for the U. S. Defense Establishment.

Keco also announced the appointment of Robert G. Strong as manager of its Western Div. with offices in Los Angeles.

FOR REMOTE CONTROL OF LIQUID LEVEL AND DIFFERENTIAL-USE
ALCO 908 electronic LECTRO-LEVEL
Just set the dials for accurate control of liquid level. For all refrigerants and all non-corrosive liquids with specific gravity of 0.5 or more. Request bulletin 908.
hold liquids LEVEL with ALCO CONTROLS
on flooded evaporators, shell and tube coolers, and large receivers
operate sump pumps, alarm bells, and other electrical devices
FOR FIXED LEVEL CONTROL USE
ALCO J-5 FLOAT SWITCH
Holds liquid level within ⅛" differential. Only two major parts. Easy to install and service. For all refrigerants and all non-corrosive liquids with specific gravity of 0.6 or more. Write for bulletin 175-1
ENGINEERED FOR SERVICE FOR LIFE
SEE YOUR ALCO WHOLESALER
ALCO VALVE CO.
Designers and Manufacturers of Thermostatic Expansion Valves, Evaporator Pressure Regulators, Solenoid Valves, Float Valves, Float Switches
6769

Ver Wayne of Copeland Sales Dept. Dies at 46

SIDNEY, Ohio—Henry J. Ver Wayne, member of the Copeland Refrigeration Corp. sales department for the past 19 years, died last week. He was 46.

Ver Wayne was in Copeland's customer relations department, and was well known to Copeland users throughout the country, having been with the old Copeland company in Mt. Clemens, and continuing with the new organization when it moved to Sidney.

For more information about products advertised on this page use Information Center, page 26.

Philadelphia Area Room Units Up--

(Concluded from Page 1, Col. 2)

phia reported to the Electrical Association of Philadelphia recently.

Their sales for the first nine months of the year were 36% ahead of 1955, the association said.

Figures released by the association showed September sales of conventional washers up 83% over last year and clothes dryers up 36%. On the other hand, September sales of automatic washers were down 1%, ranges 5%, refrigerators 19%, freezers 36%, and dishwashers 49%.

For the nine months, clothes dryer sales were up 45%, dishwashers 41%, conventional washers 18%, and automatic washers 8%. Sales of ranges were off 2%, refrigerators 10%, and freezers 40%.

The report covers sales in Bucks, Chester, Delaware, Montgomery, and Philadelphia counties.

Unit sales of these appliances were as follows:

Appliance	Sept. '55	Sept. '56	9 Mos. '55	9 Mos. '56
Air Conditioners	241	431	37,063	50,545
Refrigerators	6,044	4,901	59,357	53,514
Home Freezers	813	524	8,334	5,033
Ranges	1,545	1,463	15,565	15,306
Clothes Dryers	1,437	1,954	9,008	13,058
Dishwashers	602	308	4,413	6,228
Washers, Automatic	5,461	5,418	44,553	48,262
Washers, Conventional	1,152	2,104	10,136	12,000

Copper Price--

(Concluded from Page 1, Col. 4)

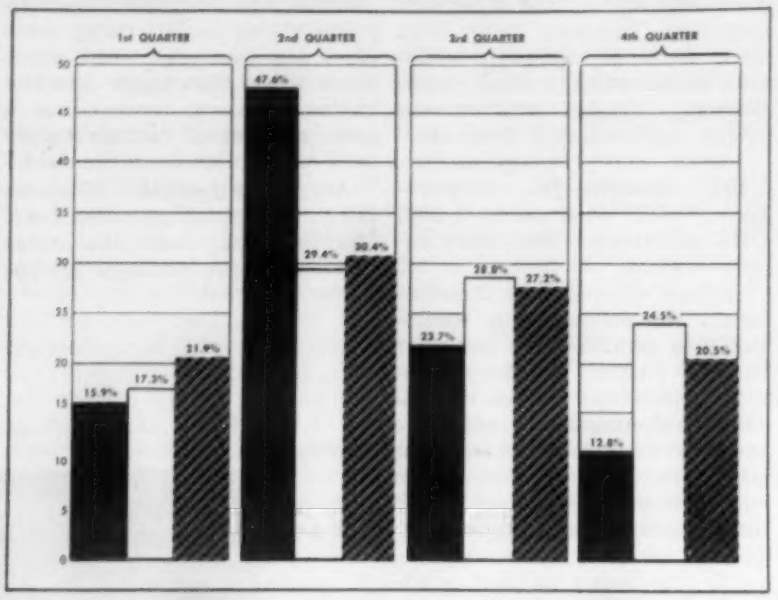
conditioning industry, announced a reduction in prices from a 40-cent to a 36-cent base.

Revere Copper & Brass, Inc. also announced that it was lowering its mill product prices to a basis of 36 cents for refined copper. A similar move had been made earlier by Phelps Dodge's fabricating subsidiary.

Phelps Dodge also disclosed that it will curtail production in November about 7½%, and Anaconda said it was cutting its domestic copper output 16%.

Executives of Bethlehem Steel, Armco Steel, and Inland Steel recently stated that higher steel prices are necessary. Eugene C. Grace, chairman of Bethlehem, said costs have risen so much since the industry boosted prices $8.50 a ton last August that advantages have been almost nullified.

'55 New Housing, Home Alterations Pattern, Central Conditioner Sales



Sales of Central Air Conditioners, in Units (ARI)

Alterations, In Dollars (Commerce, Labor Depts.)

New Housing, In Units (Commerce, Labor Depts.)

Amana Central System Survey--

(Concluded from Page 1, Col. 3)

said, because there is significant new home building and home modernization in what are considered the "off months"—the last and first quarters of the year. Both categories of building are significant, he said, because approximately half of central units are being installed in new homes and half in existing homes.

In 1955, construction of 47% of new non-farm homes were started in the last six months of the year. According to U. S. Department of Labor statistics, even in the fourth quarter of 1955, the slowest building period, 20.5% of new homes were begun. Yet only 12.8% of central air conditioners were delivered in that period. In the first quarter of 1955, 21.9% of the year's homes were started, and 15.9% of conditioners sold.

1955 PATTERN OF NEW HOUSING, RESIDENTIAL ALTERATIONS AND CENTRAL AIR CONDITIONER SALES

	New Non-Farm Dwelling Units (In thousands)	Residential Alterations (In millions of dollars)
Jan.	87.6	71
Feb.	89.9	68
March	113.8	79
April	132.0	106
May	137.6	133
June	134.5	133
July	122.7	127
Aug.	124.7	119
Sept.	114.9	119
Oct.	105.8	116
Nov.	89.2	107
Dec.	76.2	88

Source: U. S. Department of Labor; U. S. Department of Commerce.

Central Air Conditioner Sales (In percentages)	
First quarter:	15.9
Second quarter:	47.6
Third quarter:	23.7
Fourth quarter:	12.8

Source: Air-Conditioning & Refrigeration Institute.

Large Potential In Central Cooling Sales In First, Last Quarters

Although sales of central air conditioners in the last half of the year were substantial—36.5%, or 47,450 of the 130,000 units sold—they did not keep close enough pace with the two building patterns, Lyon said. Sales in the fourth quarter lagged principally.

"Although it may have seemed easier to sell central air conditioning in the months immediately preceding the warm weather, building patterns indicate that there is a large, unrealized potential for central air conditioner sales in the last and the first quarters of the year," he insisted. "Dealers, builders, distributors, and manufacturers must do a more aggressive job of merchandising then.

"For, in the air conditioning industry's so-called 'off-season,'" Lyon said, "consumers can be sold on the idea that installation and servicemen have more free time, that air conditioning is a long-term financing purchase so there need be no heavy payment at the outset for something not used until the warm weather, that in this way consumers can be ready for the very first hot spell, and, finally, that there need be no interruption with normal furnace use."

"This obviously, offers a great opportunity for the specialty selling organization," Lyon said.

"The mushrooming interest in air conditioning throughout the country can serve as the foundation for the aggressive selling efforts of specialty crews," he continued. In many areas they have already demonstrated their success in selling central cooling on a year-round basis.

55,000 New Starts In '55 In Northeast, North Central

While the rate of housing starts remains higher in the south than in other parts of the country during the winter months, "it is interesting to note," Lyon pointed out, "that even in the northeast and north central states during the same period in 1955 there were 55,000 new housing starts—the vast majority of them potential central air conditioner buyers."

Also, in 1955, more than 53% of funds spent for alteration were expended in the last six months of the year, Lyon said. The last quarter of 1955 represented 24.5% of the year's expenditure of $1,266,000,000 on alterations for private homes. The first quarter of 1955 saw 17.3% of the annual total spent.

BIG NEWS
from Typhoon— On How To Make Money This Fall!

No post-season slump for Typhoon dealers. We're going all out on a special Fall Promotion Program to bring them business when they need it most!

This comprehensive folder, filled with top-notch aids and dividend features—newspaper mats, a bang-up direct mail campaign, and a host of other hit-ideas—will increase pre-season sales and profits. No need for your profits to fall this Fall if you tie in with Typhoon's special sales-building program.

10 GOOD REASONS
why a Typhoon Franchise is your Best All-Year-Round Security, too!

1. 100% advertising credit—to give you frequent sales getting newspaper advertising at the local level.

2. Aggressive and field tested fall promotion program.

3. Deferred payment plan—keeps business going strong all-year-round by offering your customers Fall and Winter installations with payments starting in May.

4. Field warehousing plan—a pay-as-you-use plan on complete inventory set up in your own warehouse.

5. Retail finance plan—low down payment with 36 months to pay.

6. Re-purchase agreement—enables you to carry more stock and sell more by increasing your present line of bank credit.

7. Close factory cooperation—you deal direct with everyone, from the Typhoon president down.

8. On-the-spot district manager—he's there to help you with any problem that comes up.

9. Regional schools—offering free sales-engineering courses.

10. Top-quality units—the largest range of waterless air-cooled equipment including 8 and 10 ton capacities. All are superbly engineered, competitively priced and built with finest components for trouble-free operation.

2-3-5-8-10-15-20-25-30-40 TONS

Write, phone or wire today *for information about a Typhoon franchise in your territory ...and the special Fall Promotion Program to bring you increased profits.*

TYPHOON AIR CONDITIONING COMPANY • *Division of Hupp Corporation*
Specialists in Human Comfort Since 1909
505 Carroll Street, Brooklyn 15, N. Y., ULster 8-0800

For more information about products advertised on this page use Information Center, page 26.

Sees Small Retail Food Store 'Not Doomed'

Need Attractive, Well-Organized, Quality Food Market with Modern Merchandising Methods To Combat Supermarket Trend

CHICAGO—The small retail food store operator is not necessarily "doomed" by the trend to larger food outlets, Marie Kiefer, secretary-manager of the National Association of Retail Grocers told the 29th National Plee-Zing Convention in the Morrison hotel here.

After commenting on the "retail revolution" which appears to be heading toward the supermarket, self-service department store with about half the space devoted to the food section, Mrs. Kiefer said:

"This may sound a bit 'dooming' to small operators, but I don't think it is. Does the food store of tomorrow have to be king size? Does every community, every shopping center and every neighborhood require 'giant' operations? No indeed! What is required, however, is that every retail food outlet be attractive, well organized, and utilize modern merchandising methods."

One of the nation's foremost women executives and an outstanding food industry authority, Mrs. Kiefer led a panel of wholesalers on the subject of "Building Better Retailers" before presenting her convention talk.

Poor Atmosphere, Lack of Competitive Spirit Seen as Damaging

According to the NARGUS secretary-manager, it won't be size that will defeat the small operator, but rather poor store atmosphere and lack of competitive spirit. "Limited lines of merchandise and erratic pricing will certainly discourage customer loyalty," she firmly emphasized.

She continued: "Poor quality is probably one of the quickest ways to drive customers from either the small or the large store, and when any size establishment offers a continuing good quality available at all times—customers continue to come back again and again and again!"

'Housewives Want Care, Courtesy, Attention'

In referring to psychological research studies, Mrs. Kiefer said housewives continue to want care, attention, and courtesy in a clean, attractive, and inviting establishment. "And believe me," she added, "large stores certainly have no monopoly on these features, but on the contrary small stores are able to offer them much more easily and realistically than can the 'miles of aisles' establishments."

Mechanized Selling Offers New Concepts

Again looking at the bright horizon for small operators, Mrs. Kiefer pointed out that a new technique of food retailing (mechanized selling for many food and non-food items) has been proposed that would call for new location concepts which would surely open up new opportunities for small store operators.

If a smaller store cannot obtain the financial backing for extensive expansion, she said, the retailer can surely use his ingenuity to keep customers coming into the store.

"Here is where he needs the help of the wholesaler in 'promoting like crazy,'" she declared. "Home made products like fresh roasted chickens and hens in rotisserie, home made stuffed peppers, fresh home made delicious salads, and so on, are items on which he has no competition. A coffee break for customers at ten in the morning and two in the afternoon gives the store a friendly, neighborly touch which no one can take away from the establishment."

Issuing a word of caution, Mrs. Kiefer said that even the tidy, well run store can't stand still, but must be a lively establishment with activity all around the place.

Continuing her talk with a discussion of "People, Plans, and Places" as the three major assets of a modern food store, Mrs. Kiefer emphasized the importance of store personnel.

"Nowadays there are people who predict the 'pushbutton' store with electronic merchandise selectors," she said, "but don't ever figure these mechanical processes will substitute for a competent staff."

Jamison Ups Hoffbauer As Kansas City Manager

HAGERSTOWN, Md.—A. C. Hoffbauer has been appointed manager of a new branch office in Kansas City, Mo., by Jamison Cold Storage Door Co. The office is located in Room 322 Ten Sixteen Baltimore Bldg., Kansas City 6.

Hoffbauer, a member of the Jamison organization for many years, will serve the company in the greater Kansas City area, the state of Kansas, and the western half of Missouri.

1906
Wilbur and Orville Wright's historic engineering achievement was only three years old in 1906 . . . the year marking introduction of the first Brunner-engineered product.
TODAY Brunner offers you the most profitable sales combination in the refrigeration industry:
ADVANCED ENGINEERING
BIGGEST DISTRIBUTION NETWORK
FAST WARRANTY SERVICE
THE BRUNNER COMPANY, GAINESVILLE, GA.
Brunner Manufacturing Company, Utica, N.Y.
In Canada: Brunner Corp. (Canada) Ltd., Toronto, Ontario
BRUNNER-METIC semi-hermetic Refrigeration Condensing Units are unmatched for dependable, long-life operation. Air-cooled and water-cooled models . . . from ¼ H.P. through 3 H.P. Complete line of OPEN-TYPE UNITS from ¼ H.P. through 100 H.P.
PROVEN QUALITY
50th Anniversary
BRUNNER
SINCE 1906
"DEPENDABLE"

Survey Shows

Freezer Food Plan Members Eat More and Better Meat; Convenience, Economy, More Nutrition Cited as Factors

DALLAS—Better diets, which include more meat of choicer grades, are the result for three out of four families who belong to good frozen food plans.

That is the report of 78% of a group of Texas homemakers who recently participated in a survey of "Amana Plan For Better Living" members in and near Dallas.

The survey is part of a continuing program of spot checks and field studies conducted by Amana Refrigeration to insure customer satisfaction and development of new techniques of successful freezer-food plan merchandising, it was explained.

Most notable change in family diets, according to the survey, is that most of the freezer food plan members eat more meat and better meat than they did before joining a food plan. Three-fourths of the housewives questioned said that they were eating better meat, while 67% said they were eating more meat than formerly.

While enjoying better food, and more of it, the majority of freezer-food families surveyed still manage to live within their former food budget, they said. Where less than half, 47%, had tried to follow a budget in their pre-freezer food plan days, three-fifths adhere to a budget today.

However, despite this recognition of better diet as an important result of freezer-food plan membership, 52% named "convenience" as the greatest single advantage of belonging to a plan. "Economy" and "better nutrition" each was cited as the number one factor by 23%.

In answer to specific questions, the following food plan benefits were listed: 80% shop for groceries less frequently; 82% do less impulse buying; 68% use more leftovers; 53% do "batch" cooking for future consumption; 66% have more leisure time; and 67% save money through membership in a food plan.

Almost two-thirds of those replying have 15-cu. ft. Amana freezers; the remainder have units of 19-cu. ft. capacity. On the whole, this group of freezer owners is "completely happy" with the size of their freezers. Only 9% would prefer a larger size than they now have, and 6% would take a smaller size, it was noted.

The survey brought out these sidelights on the make-up of the average freezer family in the area. More than eight out of ten, 82%, own their homes, and 94% live in single family dwellings. One out of two of the members surveyed live in cities of 100,000 or more population, while only 8% of the entire group live on farms and ranches or in towns of less than 2,500 population.

It was noted that 31% of the freezer food plan families were four-member families while 48% of the members were equally divided between three-member and five-member families.

Locker Group Issues Comic Book To 'Educate' Public on Frozen Foods

ELIZABETHTOWN, Pa. — In an effort to demonstrate effectively to the public "the important role of the locker plant, frozen food center, and food plan in the modern frozen food era," the National Institute of Locker & Freezer Provisioners recently issued a picture comic book entitled "Sue Brown Discovers the Frozen Food Way of Living."

Calculated as a textbook to "educate" the public in "the right way" to purchase frozen foods, the book is said to clearly define the locker and freezer provisioning industry's functions and services.

An advertising and promotional piece, the picture booklet "offers a tremendous and widespread message," NILFP said.

Any number over 1,000 and under 25,000 copies at the lower price per thousand of 25,000 books can be purchased prior to Oct. 31 in the special introductory offer on the order blank from NILFP, Elizabethtown, Pa. There is a 40% discount to NILFP members.

Frozen Food Locker Group Changes Name

CHICAGO—The name of the National Frozen Food Locker Institute was changed to the National Institute of Locker and Freezer Provisioners. The name change was unanimously adopted by the membership in attendance at the industry's 17th annual convention here.

Association officials believe that the new name is in keeping with the constant progress of the industry and that it is more descriptive of the area served by the association. The organization includes in its membership frozen food centers and food plans in addition to locker plants.

Tri-State Electric Names Cole Field Sales Manager

LIMA, Ohio — Franklin P. Cole was recently named field sales manager in Alabama, Florida, and Georgia for freezer-food plans of Tri-State Electric Mfg. Co. here, it was announced by G. D. O'Connor, sales manager. Cole was formerly Amana's southeast representative.

Tube-Size crimp

DRYSEAL's the tube to use! Its double crimp is same size as tube diameter. Slips easily through fittings. Keeps the mirror-smooth I.D. bone-dry, whistle-clean. Dead-soft DRYSEAL bends without tools. Flares without splits. Try economical DRYSEAL on your next job.

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REVERE COPPER AND BRASS INCORPORATED, *founded in 1801 by Paul Revere*

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Replacement Units

Available in a wide size range for Commercial, Semi-Commercial, Air Conditioning and Home Refrigerators.

EASY TO INSTALL ★ ECONOMICAL

AT ALL LEADING JOBBERS

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So Halstead & Mitchell Engineers Said:

"WE'LL PAY EXTRA ATTENTION TO WHAT OUR CUSTOMERS CAN'T SEE!"

Someone said, "What you can't see won't hurt you." Well, that can't work in the refrigeration and air conditioning industries. We know, because every day we live with the problem of keeping the things our customers can't see from hurting them.

Take Freon, for example. Was there ever a peskier gas for picking out the most minuscule holes in a system, and seeping away to the atmosphere? Brazing techniques, machining techniques, testing techniques all have to be exactly right. If they're not and that gas escapes—well, you know the answer as well as we. That's why our manufacturing techniques are the admitted most advanced in the industry.

Take fungus, for example. Spores are everywhere, and there's no happier environment for raising fungus than the warm, wet interior of a cooling tower. There's nothing that will put a cooling tower out of action faster, either, than collapse of the wetted deck surface due to fungus attack or rotting. Sure we could settle for some of the woods known as "nature's own remedy"—but we don't. We pressure-creosote all cooling tower wood, using 159 elements toxic to fungus. That's why we're the only ones in the industry who give a 20-Year Guarantee on the wetted deck wood against failure due to attack by rotting or fungus!

Take rust, for example. You can see the results, sure. But you can't see the slow corrosion attacking the metals in your systems and eating them away. The answer is not simply in a paint or a galvanize coat. The answer lies in a combination of protections to give inertness, water and vapor seal, tremendous adhesion and toughness. We don't paint; we hydraulically force these special protections (Vinyl Zinc, Vinsynite and chlorinated rubber) into every nook and cranny, so that rust can't get a start.

Take acid and chemical attack, for example. We know that acids and chemicals will clean systems, but we also know that they eat metal as well as lime and other impurities. So we design mechanically cleanable condensers, and you never have to add a drop of acid to clean any Halstead & Mitchell water-cooled condenser.

It's a matter of trust, we feel. As this industry has grown, we have grown. From mammoth extrusion presses and draw benches for drawing our own copper tubing, to leak detection equipment for measuring microns of Freon, we are the most completely and efficiently tooled manufacturer in your industry. We have looked ahead to your growth and ours—and to this end, you may always depend on Halstead & Mitchell for the finest in quality, delivery and performance.

Manufacturer of the Industry's
Broadest Line of Water-Saving
Devices for Air Conditioning
and Refrigeration

HM
Halstead & Mitchell

Cooling Towers
Air-Cooled Condensers
Water-Cooled Condensers
Finned Surface & Coils

BESSEMER BUILDING, PITTSBURGH 22, PA.

Adequate Well-Placed Refrigeration Equipment Considered Key To High-Speed Drive-In Operation

ERIE, Pa.—Well-placed and ample refrigeration equipment is a key factor in the high-speed operation of Chester L. Davis' two Park-N-Eat Drive-Ins here.

A veteran in the restaurant business, Davis spent nearly five years studying ways of developing a roadside stand that would really pull customers.

Air Conditioned Unit Runs at Capacity

"Speed is the life of a drive-in operation," says Davis, whose newest air conditioned unit has been running at capacity since it opened last year. "Everything has to be mass production. Otherwise your profits dwindle. You can't have each cook doing his own hamburgers.

"It's touch and go serving the roadside public and our whole kitchen layout and use of paper service in the Park-N-Eats are planned to get the food in the hands of the car-hops as fast as possible. At the same time, quality has to be maintained."

All this requires properly-located and adequate refrigeration equipment, it was said.

Already the successful operator of a standard restaurant in Erie, the Priscilla, Davis launched his first Park-N-Eat on a 120 by 160-ft. lot on West 8th St. in 1952. It was a good looking, big-windowed building, mostly drive-in with a few stools at a counter inside.

This was successful enough so that Davis knew he was on the right track with this kind of restaurant, seen in Florida and the west coast but not much in the east.

The new drive-in is a much bigger unit on a bigger lot on National Route 20 with an 18 by 28-ft. dining room and a 30 by 36-ft. kitchen over a basement. The building is air conditioned for first class business all year around.

Menu ranges from barbecued pork sandwiches through double-sized hamburgers, jumbo shrimp with French fries, up to a chicken basket. Davis also does a large ice cream business, and his fountain offers strawberry short cake, carbonated beverages, and buttermilk.

Everything from restaurant and fountain is served in paper cups and containers to insure sanitation and to allow the entire staff to concentrate on getting things to the customer with no bounce-back of dirty dishes and glasses to slow production.

GIRL handles three milk shake orders simultaneously with Hamilton-Beach triple spindle milk shake machine. Heavy duty Emery Thompson freezer, at work constantly in hot weather, is set up close to serving counter, too, to save steps in this fast moving operation.

Davis has found that it definitely helps his business to have an open-style kitchen with chefs and equipment in full view. Customers like to watch the clean and efficient preparation of their food, and it's interesting to see the large volume production equipment such as the triple-spindle milk shake machines, the walk-in, reach-in cooler, and big refrigerators and ice cream cabinets.

In an operation so highly organized for speed that fish, chicken, hamburger, and cheese are preportioned and stacked for fast serving, the placing and functioning of equipment is of the highest importance.

Has 8 by 12-ft. Walk-In, Reach-In Cooler Built

Davis asked Schultz's, the local restaurant equipment dealer, to engage Gloekler Refrigeration Co., custom builder, to construct an 8 by 12-ft. walk-in, reach-in cooler.

He designed it himself so that it would load and clean from the full height doorway but would give quick reach-in service from the side right next to the cooking equipment.

The reach-in wall has sliding doors instead of swing-open doors so that the aisle is kept clear and the flow of service isn't interrupted by anyone swinging a door into it.

This cooler acts as a storage and distribution center for foods prepared earlier or in other locations. Potatoes are processed with Hobart equipment downstairs, the specially weighed portions of meat for Park-N-Eat "HiBurgers" come off the Holly patty maker machine at Davis' regular restaurant, the Priscilla, and the cooks rush these neatly stacked items into service without the loss of a minute.

In addition to the cooler, Park-N-Eat uses a domestic Kelvinator refrigerator for small service items such as ice cream toppings and butter. This is centralized in the kitchen while another Kelvinator unit, an ice cream cabinet, sits next to the milk bar alongside the heavy-duty Emery Thompson ice cream machine, constantly in use in warm weather.

Close to this equipment is a stack of paper containers and a Hamilton-Beach milk shake machine for shakes, floats, and other orders—all of it handy for quick service of walk-in customers and car-hops.

"Nothing stays in the kitchen when it's ready to be eaten," Davis says. "With 60 spaces for cars outside, we have a Stromberg-Carlson public address system operated from our cash register position inside to let the car-hops know when their orders are ready. The car spaces are numbered and we call 'six' or 'twenty-six' as the case might be."

An extra profit maker for operators with ice cream facilities is to have the car-hops suggest dessert when the customer honks for tray removal, Davis noted. He keeps a large assortment of sundaes on hand, and with every-handy paper service, customers get fast orders that they can take away in their cars with them if they want.

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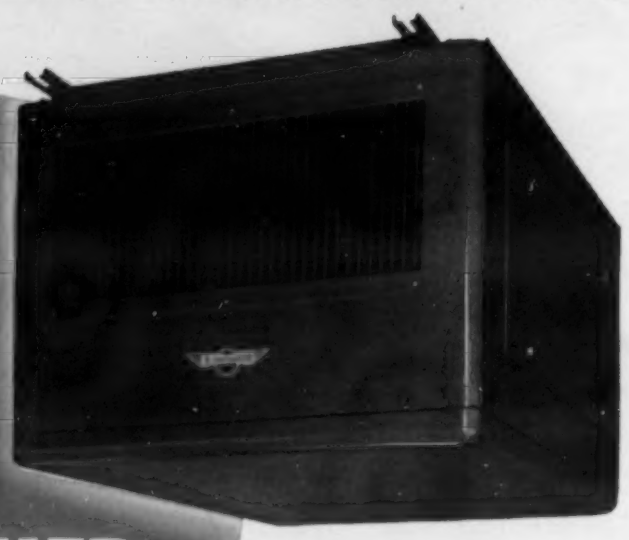
CHOOSE THE
LARKIN
(YEAR 'ROUND)
AIR CONDITIONER

5 MODELS—2 TO 10 TONS



Ideal for:
STORES BARS
SHOPS GRILLS
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Cools or heats • De-humidifies
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Here is Larkin's answer to the ever-increasing demand for year-round comfort conditioners. When you see it . . . when you compare it . . . when you price it . . . then you will understand why we say it is another triumph for Larkin—manufacturer of air-conditioning equipment for nearly 25 years.

See your wholesaler today for complete information about the all-new Larkin Comfort Conditioner. Write us for the name of the one nearest you—or for descriptive literature.

FEATURES THAT SELL AND SATISFY

- Larkin air-conditioning coil—eight fins per inch, continuous fin, staggered tubes, for highest efficiency and lowest operating cost
- Compact cabinet, all-steel, rust-resistant, beautifully finished with baked-on enamel
- Fiber-glass insulation
- Pressure-type, centrifugal, dynamically balanced, forward curved fan wheels
- Frictionless, self-aligning bearings completely encased in Neoprene
- Resilient base motors on adjustable mounts
- Two-direction, adjustable discharge grille
- Easily removed, throw-away filters
- Heating coils for use with steam or hot water
- Slotted hanger bars
- Easily installed, easy to service
- Backed by the engineering skill and manufacturing reputation of Larkin Coils—one of America's leading makers of commercial and industrial refrigeration and air-conditioning equipment

"Originators of the Cross Fin Coil"

LARKIN COILS INC.
519 MEMORIAL DRIVE, S.E., ATLANTA, GEORGIA

For more information about products advertised on this page use Information Center, page 26.

SLANTS on Service

Repairing Reinforced Plastics In the Field

ST. LOUIS—The ease with which polyester glass reinforced plastic equipment can be repaired in the field was demonstrated recently by Thomas F. Anderson, general manager of Haveg Industries, Pla-Tank Div.

The demonstration was given during a talk on the role of plastic equipment in corrosion control, given before the St. Louis meeting of the National Association of Corrosion Engineers.

Taking a large piece of plastic fume duct, Anderson, with repeated blows from the heavy

T. F. Anderson illustrates field repair.

machines hammer, managed to demonstrate that slight crazing does occur even though the piece does not fracture.

Plastic fume handling systems can always be repaired without removing them from service, and in many cases plastic tanks and pipe can be similarly repaired with only the need for an initial application of quick hardening cement to control active leaking before the reinforced patch is applied, it was pointed out.

The reinforced patch and the cement itself achieves completely the characteristics of the original material, both chemically and physically, with the strength actually being superior in many cases to the original section, according to Anderson.

The general procedure in plastic repair, it was indicated, is the sealing first of any leak with a quick setting cement; then the light sandpapering of the entire surface to give a clean surface to insure adhesion; next the mixing of the catalyst and resin; and finally the application of the reinforcing material and resin to the joint.

The entire demonstration given in connection with Anderson's talk took only minutes.

Conditioning Wholesaler Opens Roanoke Branch

ROANOKE, Va. — Hajoca Corp., wholesale distributor of air conditioning, refrigeration, heating, and industrial supplies, formally opened its new branch building at 1 Boulevard, S.W.

R. T. Crawford is manager of the Roanoke branch, one of a chain of 21 in the east.

Bev-Vend Names Grove

HAGERSTOWN, Md.—Robert B. Grove was recently elected to the board and made executive vice president of Bev-Vend, Inc.

Westinghouse To Up Small Motor Prices by 7½%

LIMA, Ohio — The Small Motors Div. of Westinghouse Electric Corp. will boost prices 7½% on fractional horsepower motors used in a number of appliances, including air conditioners, refrigerators, and laundry equipment, it was reported.

Effective date of most of the increases is Nov. 12. On the same date, prices on renewal motor parts will be raised 10%. Effective date of the increase on capacitor motors for air conditioners is Dec. 31.

Viking Air Products Names Johnson to Post

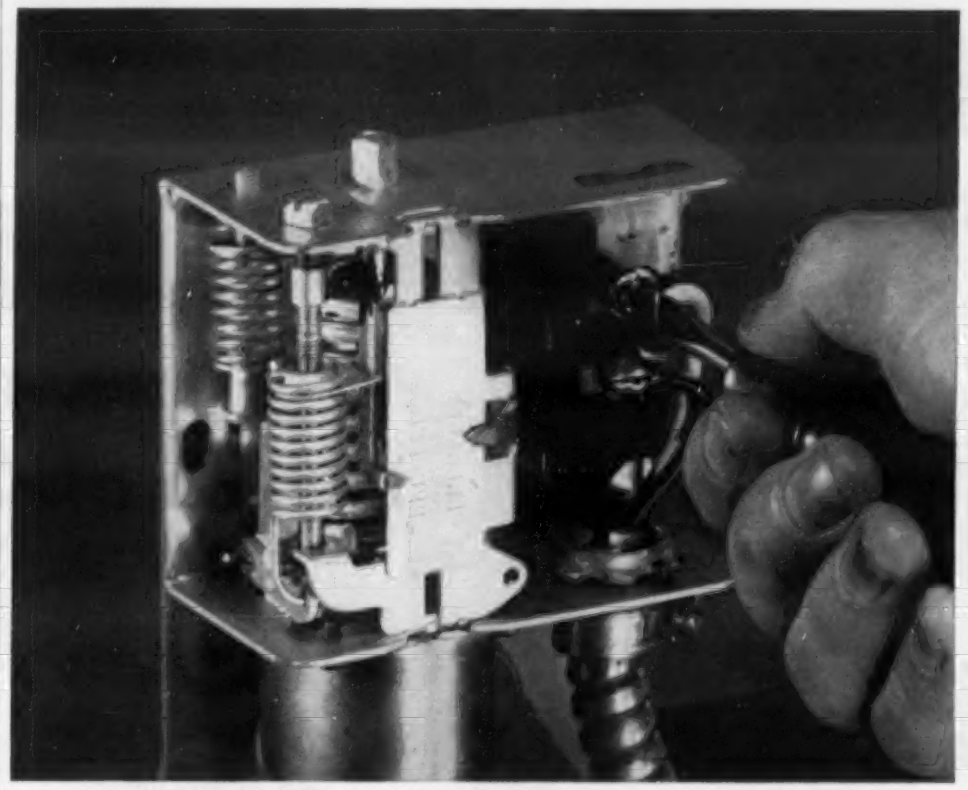
CLEVELAND—Appointment of Jack Johnson as district sales manager for Michigan, Indiana, and northwestern Ohio, was announced by Richard F. Gang, general sales manager for Viking Air Products here recently.

Johnson will call on heating and electrical appliance distributors in the three-state area for Viking, a division of National-U.S. Radiator Corp., and a leading manufacturer of fans, furnace blowers and humidifiers.

New Grace Plant To Make Polyethylene Plastics

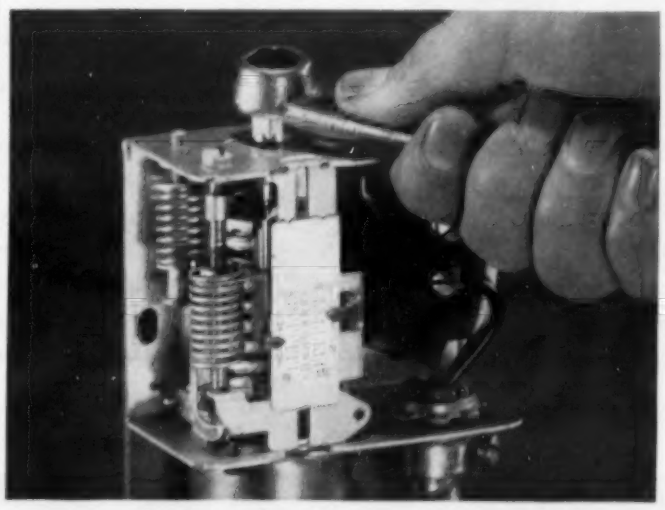
PHILADELPHIA — W. R. Grace & Co. here is now building a new $18 million plant in Baton Rouge, La., to make a high density polyethylene plastic under a process licensed from Philipps Petroleum Co., it was announced by the manufacturer.

This material should open "many new markets" in pipe, sterilizable containers, coatings, and fibers, said T. T. Miller, president of Grace's Polymer Chemicals division.

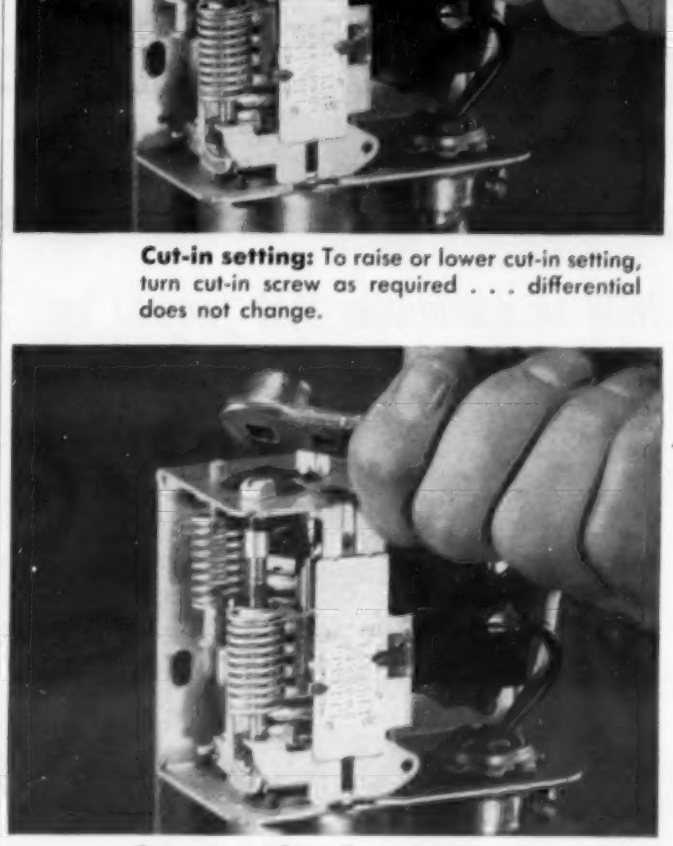


Easy to install: Mount control on compressor unit or any flat surface (bracket furnished) and connect flare nut on capillary. Then, make 2 simple electrical connections; terminals are easily accessible.

Series 270: Available in single or double pole construction with or without external adjusting knob.



Cut-in setting: To raise or lower cut-in setting, turn cut-in screw as required . . . differential does not change.



Cut-out setting: Turn cut-out screw to raise or lower cut-out setting independently of cut-in setting. This widens or narrows differential.

PENN REFRIGERATION CONTROL IS EASIER TO INSTALL AND ADJUST

Single Pole Series 270 Combines Simple Design With Snap-Acting Contact Action For Long-Life Dependability

Designed with *you* in mind, the Series 270 takes all the hard work out of installation. And, adjustment is even simpler because of Penn's direct-reading, calibrated scale indicating cut-in and cut-out settings. Time-wasting subtraction or addition is eliminated.

Once installed, the Series 270 will perform longer, better, more accurately! One reason is the exclusive contact structure which provides "roll-wipe-snap" action on closing and opening. There's no bounce . . . no closing arc . . . no welding of contacts.

Try the Penn Series 270 on your next job and you'll see the great difference. Ask your wholesaler for the "270."
Penn Controls, Inc., Goshen, Indiana.

PENN AUTOMATIC CONTROLS

For Heating, Refrigeration, Air Conditioning, Gas Appliances, Pumps, Air Compressors, Engines.

G&E

CATALOG ON REQUEST

Wholesalers of Refrigeration Supplies

G & E EQUIPMENT SUPPLY CO.
OGDEN AT FULTON
CHICAGO 7, ILL.

San Francisco Action Assures AGA Label Full Recognition

SAN FRANCISCO—American Gas Association labels have been given full recognition, along with Underwriters' Laboratory labels, in a revision of working orders to electrical inspectors of the Bureau of Building Inspection, Department of Public Works.

By making instructions to inspectors conform to the written intent of the electrical code, any possibility of failing to recognize the validity of AGA labels has been eliminated, it was stated.

R. R. Taylor, chief engineer of Fraser & Johnston, furnace and air conditioning manufacturer, meeting with Lester C. Bush, superintendent of the bureau, conferred with the bureau's electrical inspectors.

A clause was added to working orders in conformity with the code. The code gives equal status to the American Standards Association and to UL, recognizing both labels as prima facie evidence of conformity. New instructions make it clear that AGA is a part of ASA.

N. California RACCA Asks Wholesalers, Mfrs. Not To By-Pass Them

SAN FRANCISCO — Wholesalers and representatives of manufacturers in the industry were strongly represented at a dinner meeting held here by the Refrigeration & Air Conditioning Contractors Association of Northern California, where trade practices were discussed.

Speaking for the contractors, M. M. Smith, executive secretary, expressed the hope wholesalers would sell to contractors and not to consumers.

Some of the problems in connection with such a practice were discussed by representatives of manufacturers.

All expressed a willingness to hear further proposals from the contractors. Another get-together in three months was suggested.

University of Wisconsin Cooling Institute To Be Held Nov. 14 to 16

MADISON, Wis. — A three-day institute on air conditioning will be held here at the University of Wisconsin Nov. 14-16.

The UW extension division and college of engineering will hold the sessions in cooperation with the Wisconsin chapter of the American Society of Heating and Air-Conditioning Engineers.

PRESSTITE
MASTIC SEALERS

- Seal seams
- Deaden sound
- Bulk, bead, tape or semi-liquid
- Apply by hand, spray or flow

See your wholesaler or WRITE

PRESSTITE-KEYSTONE
Engineering Products
COMPANY
39th & Chouteau, St. Louis, Mo.
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WHAT . . WHEN . . WHERE

A Guide to Coming Events of Interest

National Hotel Exposition
Nov. 12-16, Coliseum, New York City.

National Electrical Manufacturers Association (NEMA)
Nov. 12-16, Traymore hotel, Atlantic City.

Refrigeration Service Engineers Society (RSES) Annual Meeting
Nov. 15-18, Hotel Muehlbach, Kansas City, Mo.

American Society of Refrigerating Engineers (ASRE) Semi-Annual Meeting
Nov. 25-28, Hotel Statler, Boston.

Refrigeration & Air Conditioning Contractors Association (RACCA) Annual Meeting
Nov. 26-28, Balmoral hotel, Miami Beach, Fla.

National Warm Air Heating & Air Conditioning Association (NWAHACA) Annual Convention
Nov. 27-30, Netherland Plaza hotel, Cincinnati.

Air Conditioning & Refrigeration Wholesaler's (ARW) "Product Knowledge Clinic"
Dec. 14-16, Hotel Morrison, Chicago.

August Wholesaler Sales Rise 2%; 8-Month Sales 7% Ahead of 1955

WASHINGTON, D. C.—Sales of air conditioning and commercial refrigeration equipment distributors in August rose 2% from a year ago but were off 9% from July, according to the Bureau of the Census.

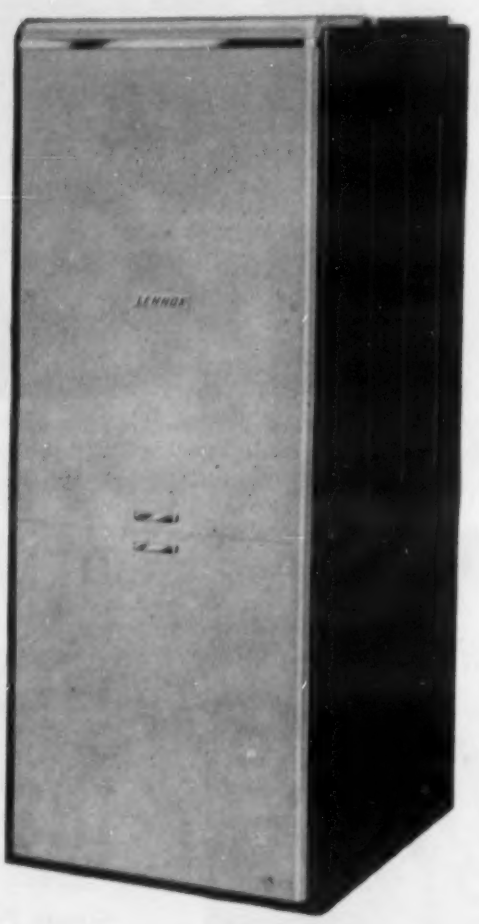
Their sales for the first eight months of this year were 7% ahead of those in the like period of 1955. The distributors' inventories at the end of August rose 7% compared with a year earlier and were down 7% from July 31.

August sales of distributors of electrical appliances, TV, radio sets, and electronic parts were unchanged from August, 1955, and up 11% compared with July. For the first eight months of 1956, their sales were 5% higher than in the corresponding year-ago period. Their end-of-August inventories increase 20% from the Aug. 31, 1955 level and 1% from July.

The Census Bureau said August sales of all types of merchant wholesalers as a group were 11% above July and 8% higher than in August a year ago. Cumulative sales for the first eight months of 1956 were 9% higher than sales in the comparable period of 1955.

Wholesaler inventories at the end of August were 1% above July 31 stock but were 12% above stocks a year ago.

Another reason more AIR CONDITIONING DEALERS are switching to



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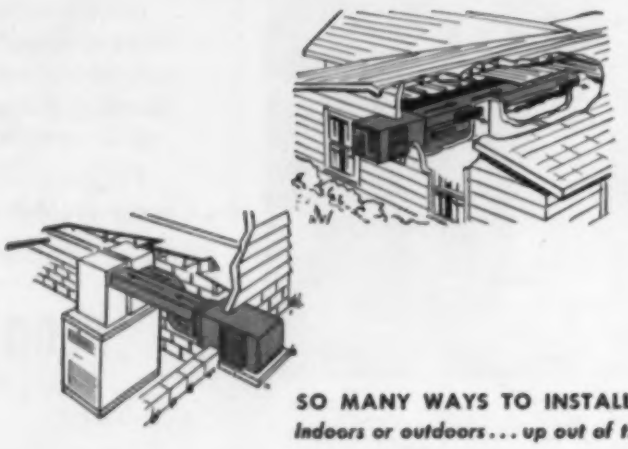
your builders'

AIR CONDITIONING . . . WITH HEATING OR ALONE . . .

- *Both air and water cooled systems*
- *Single package and remote units*

If you're interested in BIG volume . . . if you want to cash-in on the tremendous amount of home building in your area, here's great news for you. Lennox not only makes the most versatile line of home air conditioners, but has developed a special builder promotion campaign. Lennox gives you something EXTRA

Here it is . . . the NEW air conditioner that "wowed 'em" at the N. A. H. B. Show in Chicago . . . LENNOX Stowaway



Here's how to slash hundreds of dollars off the cost of residential air conditioning. No wonder the Stowaway literally "stole" the home builders' show!

- Air Cooled
- Amazing Low Price
- Self Contained Unit
- No Plumbing Needed

SO MANY WAYS TO INSTALL
Indoors or outdoors . . . up out of the way

For more information about products advertised on this page use Information Center, page 26.

Year-Round Heating, Cooling Design and Selection, Pipe Selection To Highlight I-B-R Illinois U Course Jan. 28-31

NEW YORK CITY—A mid-winter I-B-R heating-cooling short course will be held Jan. 28-31, 1957 at the University of Illinois.

This tenth short course will highlight design and selection of combination heating and cooling systems for year-round comfort, a rapidly increasing field of contractor activity.

Sponsored jointly by the Institute of Boiler and Radiator Manufacturers and the University of Illinois, the course was developed this year under the supervision of Professors Warren S. Harris and R. J. Martin of the university staff with the assistance of Arthur L. Wales, I-B-R technical secretary.

The new I-B-R Guide C-30 will be used to teach calculation of summer cooling loads. Pipe selection fundamentals will be covered to provide a better understanding for design of either one-pipe or two-pipe combination systems.

TESTING, ADJUSTING FIELD METHODS FEATURED

A laboratory program will feature actual field methods of testing and adjusting combustion equipment as well as the determination of efficiency and incomplete combustion.

This short course will also include a tour of heating and cooling research facilities at the university. I-B-R's research home will be visited and its research program outlined. In addition, the new I-B-R Testing Laboratory located in Urbana will be open for inspection.

Some 12,000 participating students have been introduced to new methods and ideas for improved sizing and installation of heating systems at competitive costs since the short course and field training program of I-B-R were inaugurated.

LECTURE, DISCUSSION TOPICS LISTED

Topics for the lecture and discussion periods in this course are: factors affecting heating and cooling loads, control and operation of heat and cooling systems, equipment for summer cooling of residences, chimneys and combustion, and how to avoid improper selection of boilers.

Research results from the I-B-R Research Home will cover heating-cooling system performance, residential snow melting systems, and domestic hot water.

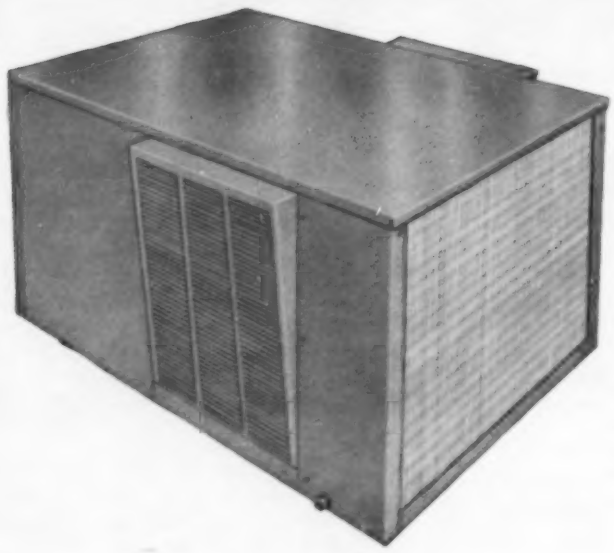
Problems for the classroom and laboratory are: calculation of winter heating and summer cooling loads for a residence, using I-B-R Guides H-20 and C-30; design and selection of equipment and controls for residential heating and cooling systems, and laboratory experiments in combustion and piping system performance.

LENNOX

has the profitable answer to air conditioning needs!

IN STYLES THAT ARE POPULAR, PRACTICAL AND PROFITABLE

to sell to builders . . . then helps the builders sell *extra* homes! . . . *to make more money for you*. But that's just a small part of the story of how Lennox dealers everywhere are getting *volume* business in residential air conditioning by cashing in on the building boom. Let us tell you more at your convenience.



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(Address nearest branch. See locations below.)

Tell me more about the LENNOX builder program and how I can get greater air conditioning sales with Lennox. No obligation on my part.

COMPANY.....
ADDRESS.....
CITY..... STATE.....
MY NAME.....

LENNOX Industries Inc.
Established 1895

Marshalltown, Iowa • Columbus, Ohio • Syracuse, N.Y.
Salt Lake City, Utah • Los Angeles, Calif. • Fort Worth, Texas
Decatur, Ga. • Des Moines, Iowa
LENNOX Industries (Canada) Ltd., Toronto, Montreal and Calgary

Worthington Unveils 50-Model Furnace Line for Wholesalers

POINT CLEAR, Ala.—A complete new line of furnaces, all adaptable for addition of summer air conditioning, was recently announced by Worthington Corp. at its annual air conditioning and refrigeration wholesalers meeting held here.

New units are being offered to air conditioning and refrigeration dealers to complement Worthington air conditioning equipment, it was explained.

An unusual aspect of the meeting was the unveiling of two nearly $100,000 in cost "Climate Vans" built to tour the nation and bring the firm's new line of cooling and heating equipment to every major market area by March 1.

Under sponsorship of Worthington representatives in each area they will visit, the Climate Vans will be used for field sales training and for exhibition to stockholders and the public, besides being shown to prospective dealers, architects, and builders, the company pointed out.

The two-day session was attended by wholesalers headquartered in California, Arizona, Oklahoma, Missouri, Massachusetts, New York, Connecticut, Pennsylvania, Texas, Louisiana, Florida, Alabama, and Illinois.

The furnace units are available in high-boy, lo-boy, counterflow, and horizontal design. The latter are adaptable for suspension mounting. New units can be belt or direct driven and include a line of lower-priced models for use in areas where cost is of major importance.

Produced in about 50 different types and sizes, ranging from 80,000 to 350,000 B.t.u.h., the units are gas or oil-fired, it was noted. A wide scope of optional features makes the furnaces adaptable to accommodate varying conditions of operation for residential and commercial applications.

Other Worthington equipment introduced to the wholesalers included a new packaged liquid chiller and new air-cooled packaged air conditioning unit.

Ex-Heating Firm Partners Fined for Falsifying Home Loan Statements

SYRACUSE, N. Y. — Two Syracusans, formerly partners in a heating company, were fined $750 each here in Federal Court for making false statements to obtain Federal Housing Administration loans for home improvements.

The two, Irving A. Lehrer, alias "King" Lehrer, of 308 Academy Pl., and Sidney Finkelstein, alias Sidney Finley, of 519 Seeley Rd., were each placed on probation for one year by Judge Stephen W. Brennan.

Brennan also suspended a one-year sentence for each of the former partners in the Central New York Heating Co., Inc.

Asst. U. S. Attorney Andrew J. Culik said the pair made false statements to the FHA to obtain loans on home improvement projects.

Lehrer and Finkelstein pleaded guilty to the charges .

For more information about products advertised on this page use Information Center, page 26.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

"The background information has been surveyed and the functional structure of the component parts of the cognizant organization has been clarified. (We looked at the assignment and decided George would do it.)"

Is Air Conditioning Ruining Texas?

Houston may well be, as its Chamber of Commerce has claimed, the *most* air conditioned large city in the nation.

But an article in *McCall's*, in which Ludwig Bemelmans takes a wide-eyed look at "The Texas Legend," indicates that one local citizen—and a prominent one, at that—doesn't share the chamber's joy over this record.

Discussing Houston in one section of his article, Bemelmans notes that Rice Institute is completely air conditioned. He then adds parenthetically:

"You are never without the sound of air conditioning apparatus in Texas. A prominent Houston citizen said to me, 'Air conditioning is ruining this country. It makes it possible for the Yankees to live here.'"

That quote was called to our attention in a letter from Otto Tinzmann, "your old time subscriber from the Zerozone days and Ray Polley and Jernberg, and later with the refrigeration department at Camp Polk, La. and the same at White Sands Proving Grounds, N. M., then to Ft. Sheridan, Ill., and now with the same, on the Nike sites of the Milwaukee area."

Otto sent "best wishes and continued well wishes to your fine weekly that is welcome here."

Below Otto's name was this address: c/o U. S. Disciplinary Barracks, Refrigeration Dept., 6081 N. 43rd St., Milwaukee, Wis. After "U. S. Disciplinary Barracks," Otto had typed this additional information: "(not inmate)."

Who Will Neutralize Freezers?

Increasing use of food freezers throughout the country is, naturally, good news for our industry. But it's bad news for the film industry, according to Norm Schorr, whose New York public relations and publicity agency handles the Amana account.

It seems that Bob Hope knocked himself out in New York to stir up excitement and thus lure customers to the opening of his new movie, "That Certain Feeling."

His "frantic salesmanship" included donning the garb of a doorman and drumming up business in front of the theater, doing stage shows, chatting with several radio disc jockeys in the theater lobby, and appearing on early morning and late night TV shows.

"To sell a picture these days," the stand-up-type comedian was quoted, "you've got to have a good product, sure, but you've also got to have excitement, penetration, and impact."

In further philosophy, Hope pointed out that movies had to overcome the "pickiness" of the public, which is now entertained so much it is jaded and sophisticated.

"And then," he continued, "there's the deep freeze factor.

"At first glance, the connection between home freezers and movie attendance may seem rather tenuous. But now that housewives have commodious deep freezes at home they don't need to make many trips to the supermarket.

"This keeps them off the street and cuts down the chances that in their wanderings they will drop in to see a movie. So it's necessary for the movies to break through the deep freeze barrier."

("That's coming of age, isn't it!" commented Schorr in referring to the above quotes. "Can ebullient Bob Hope neutralize those freezers?")

Carrier's 'Learn While You Earn' Programs

Two new "learn while you earn" programs, which provide opportunity and financial assistance for employes to work toward college degrees while holding a full-time job, have been announced by Carrier Corp.

One program is aimed at developing new engineering opportunities within Carrier. Set up in cooperation with Syracuse university, it offers a series of evening classes enabling high school graduates with college admission background to complete their freshman and sophomore years in engineering over a period of four years.

Classes are held two to three evenings a week. And Carrier pays 75% of all student costs.

After completing these first two academic years, they may apply for a leave of absence for two years of full-time study (on a scholarship paying full tuition costs) leading to a Bachelor's Degree, or they may take two more years of night study for a third academic year.

The company will pay 75% of all student costs for any job-related courses which an employe may complete while working full time. With the availability of the new engineering courses, an employe with some engineering credits may complete his academic requirements for the first two years by electing specific courses. He may then qualify for the final two years of full-time, tuition-paid study ending in an engineering degree. Under the Tuition Refund Plan an employe may also secure education in non-engineering fields related to his job.

The two programs are supplemented by another for post-graduate level engineering education initiated by Mr. Wampler. This third plan makes it possible for graduate engineers to obtain advanced degrees in mechanical engineering on a part-time basis without cost.

Under the graduate engineering training program, 3½ years of study are required for a Master's Degree. First classes now under way at University college include 22 Carrier engineers. Unlike most such programs, extra expenses incurred by the university to set up the graduate courses likewise are covered by Carrier.

The Carrier arrangement with Syracuse university to make such courses available on a part-time basis may also permit others in the community to complete academic requirements leading toward engineering degrees while working full time.

This program deserves applause by the entire industry—and the nation, too.

New McIntire DC FILTER-DRIERS with PERMASORB

give 3 TIMES More Protection

Now—buy the same size DC Filter-Drier as before, pay the same price—but get *triple* drying and filtering protection.

300% more drying capacity—3 times greater protection against moisture, acids and system failures because it is charged with the sensational new PERMASORB desiccant.

PERMASORB is a blend of drying agents designed to give maximum balanced drying at high, low and minute concentrations of moisture over the entire range of liquid line temperatures.

ADVANTAGES

- 3 times more drying capacity.
- Need not be installed in cool location—holds moisture under all refrigeration conditions.
- Ideal for extra-low temperature jobs.
- Neutralizes acids quickly.
- Best for all refrigerants—a must for refrigerant 22.
- Will not break down under extremes of moisture or acid.
- Dries super-fast, gets systems operating promptly.

ASK YOUR WHOLESALER FOR DC FILTER-DRIERS WITH PERMASORB

Install them for faster drying, longer protection, fewer callbacks, bigger savings.

Since 1925

THE McINTIRE COMPANY, Livingston 11, New Jersey

OFN

DRIERS · FILTERS · STRAINERS

For more information about products advertised on this page use Information Center, page 26.

WR

here's the new

Mark of Distinction

symbolizing White-Rodgers famous standard of quality in controls for modern comfort

Raymond Loewy, *internationally famous industrial designer*

styled by **RAYMOND LOEWY ASSOCIATES . . .**

world's largest firm of industrial designers . . . whose internationally famous creative talents have developed new prestige and sales for some of America's most distinguished products.

Look for this trademark . . . you'll be seeing it everywhere . . . on White-Rodgers heating, refrigeration and air conditioning controls . . . on cartons, boxes, labels, catalogs and new products.

One of the first products to display the new Mark of Distinction is the NEW *Fashion* Thermostat—most exciting design idea in thermostats . . . in years.

AUTOMATIC CONTROLS for heating, air conditioning and refrigeration

WHITE-RODGERS

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Honest Values . . .

Honestly Evaluated

AIR CONDITIONING & REFRIGERATION **NEWS**

The Newspaper of the Industry

ABP

450 West Fort Street • Detroit 26, Michigan

ABC

37 Packaged Units Operate Successfully To Air Condition Large Multi-Story Department Store with Little Ductwork

TULSA, Okla.—Two seasons of trouble-free operation in an installation here have shown the practicability of operating multiple package air conditioners in a multi-story department store building.

Consisting of 24 separate floor levels in three adjoining leased buildings, the Brown-Dunkin Department Store, Tulsa, presented a sales engineering challenge when the owner asked for air conditioning bids in January, 1955.

System Had To Meet 4 Premises

The store owner asked for proposals on a system that:

(1) would have a minimum of ductwork,

(2) would have a high salvage value should the store be moved,

(3) could be quickly installed with little disruption to store activity, and

(4) would have a reasonable cost per ton price.

After many surveys and consultations with the store management, it was decided that a system employing multiple package units would best fit the owners' requirements. Consequently, a formal contract was signed in February, 1955, for the installation of 37 package air conditioning units totaling 267½ tons.

Thirty-three of the units were to be Carrier 7½-ton "Weathermakers," with the remaining four units to be Carrier 5-ton Weathermakers. An oversized 390-ton cooling tower was to be installed to handle future capacity and to serve some existing air conditioning.

Spotted 37 Units for Best Efficiency

The first step in making the installation was to spot the 37 package units for best efficiency. Some shelving had to be removed; however, most of the units could be installed behind the shelves, next to the outside walls. This simplified the introduction of fresh air into the units, through louvers in the windows.

The store's maintenance superintendent, Joe Lawrence, had complete authority in the matter of equipment location which cleared the way for quick installation. Units were uncrated on the trucks, moved in the front door and taken up the passenger elevators to the various floors. A special wide tire underslung dolly was constructed so that units could be moved without carpet damage.

Oversized 390-Ton Cooling Tower Erected

A 390-ton Marley cooling tower was erected on the roof with two pumps to circulate the condenser water. One pump was 25 hp., the other 7½ hp. A positive non-clogging bleed off was installed. This was necessary to prevent the units from scaling.

Condenser water piping was looped around each floor from two main risers. Each floor was valved off from the risers and plug cocks were installed at each unit.

All condenser piping was black steel, welded in sizes over 1½ in. All welding was done during normal store operation by building an asbestos hood around the welders.

At first, the welding crew was somewhat dubious about working in a crowded store next to shoppers, but they soon got used to the idea, and the work proceeded rapidly. The customers didn't seem to mind the activity; in fact, one department manager remarked that business picked up on his floor while the piping was going on.

Condensate piping from each unit was screwed galvanized pipe, liberally sized. Investigating old pipes and chases helped locate enough drain points so that no condensate pumps were needed.

Air ducts from the units were kept at a minimum by using some plenums and many short stub ducts. These ducts projected through the curtain walls to the outlets. The outlets, dubbed "snouts," sprayed the air in a 180° radius. Later tests indicated that air distribution of this type in a store where people are constantly on the move is acceptable.

Special Electrical Service

Since the existing electrical service into the building was loaded, and since no space was available for additional service equipment at this point, permission was granted by the City of Tulsa to bring a new service into the building.

A 2,000-amp. main Pringle switch was installed with subfeeder circuit breakers for each floor. Units on each floor could be shut off at one central point.

Each unit had a non-fused 60-amp. disconnect switch, and each unit had a water pressure electric switch so that if the main pumps failed, the air conditioner compressors would shut off due to lack of differential pressure across the condensers.

These pressure switches eliminated electrical interlock wiring and helped prevent feedback and phasing problems.

Ten weeks from the start, the system was ready to run.

POINTING TO one of 37 Carrier packaged air conditioners installed in Brown-Dunkin Department Store in Tulsa, Okla. is Bill Elliott as Joe Lawrence, store's maintenance superintendent, looks on.

WE WANT YOU!

Enlist Now in the YORK

Second Front

York, the greatest name in commercial and industrial air conditioning and refrigeration since 1885, is now allied with *Borg-Warner* for the biggest all-out drive ever on the domestic air conditioning "front" The most impressive arsenal of sales weapons ever assembled is massed for the attack—power-packed advertising and promotion programs aimed at both the national and local level . . . a fine array of new products packed with revolutionary features . . . dynamic new selling concepts . . . bold innovations. Your York distributor will soon have details on this outstanding profit opportunity.

DISTRIBUTORS!

In line with their new expansion policy, York still has some good territories available for the most profitable franchise in the air conditioning industry today. Write or call Bob Cassatt, Commercial Division Sales Manager, York Corporation, York, Pennsylvania. Do it today!

Don't miss York's Fall Sales Convention! Miami Beach, Nov. 8-9-10

Your FUTURE and FORTUNE Now Lies With York

refrigeration air conditioning

SUBSIDIARY OF BORG-WARNER

Distributors See Gibson Line--

(Continued from Page 1)

dicted that "An increase in the types of equipment providing full summer and winter comfort will at least double Gibson sales of central air conditioning.

"With this increase in our line will come increased emphasis on broader distribution," he said.

Prices Unchanged

Prices of the 1957 line are unchanged from 1956, Palmer reported. "Despite sharply rising raw materials and labor costs, every effort is being made to hold prices at the existing level, though a January review of price and cost levels may be necessary," he noted.

One attic unit shown distributors will air condition the average three-bedroom home for about $500, according to Palmer. The 2-hp. unit is installed in the attic, and the distribution system is made an integral part of the home through drop ceiling construction. This air-cooled model AC-292 carries a 5-year customer protection plan, is also adaptable to commercial installations.

The two Gibson-Omni models are all-purpose air-cooled attic-type residential units, also adaptable to commercial use. They are supplied complete with grilles, controls, and prefabricated glass fiber insulated ducts covered with reflective aluminum.

"Model GO-21 offers full 24,000 B.t.u. output, while model GO-31 has two 1¾-ton compressors producing a full 36,000 B.t.u. at operating conditions," the company said. "Controls for single and double compressor operation economically maintain balanced temperature and humidity levels."

Commercial-Industrial Units

Compact commercial-industrial units for 1957 are offered in air-cooled 2 through 10-ton models, and in water-cooled models of 3, 5, 8, 10, 15, 20, 25, 30, and 40-ton capacities. All are completely packaged, ready for operation. They are available with single or multiple compressors, "permitting flexibility in meeting all operating conditions and specifications," the company stated.

Two features of the Gibson domestic warm air "winter air conditioners" are "Even-Flo" temperature control—available on all conventional models—and "Vari-Flame" 3-stage fire, provided on most conventional gas models.

The 129 different Gibson furnace models provide output ranging from 70,000 to 200,000 B.t.u. in gas and oil units. Available are high boys, low boys, counter flows, ranch type, and duct furnaces.

In describing its new room air conditioners, the company said that a Gibson exclusive in the Trimline series is "Air Sweep" automatic directional cooling.

"Behind the horizontal louvers which direct the air flow from ceiling to floor is a set of vertical louvers connected to an oscillator mechanism," it was explained. "The louvers swing in a 120° movement, fanning air from wall to wall, providing even cooling without drafts."

1-Hp. Unit Operates On Standard Home Current

Also available is a 1-hp. unit that can be operated on standard household current.

"Other features of the line," Gibson said, "include a permanent electrostatic filter which magnetically attracts dust particles of less than one-half micron size that is renewed by washing with water and a detergent, fresh air filtration, sliding door control panel cover, high dehumidification control, "Turbo-jet" cooling with twin blower construction for evaporator and condenser, automatic thermostat temperature control, "push-button comfort," two-speed fan control, and five-way mounting."

In the Deluxeline for 1957 are five models ranging from ¾ to 2 hp. Model A-721C, a ¾-hp., 115-volt special merchandising model with thermostat, glass fiber filter, and single-speed fan, carries no suggested price.

Model A-731C is a ¾-hp., 115-volt, 7½-amp. unit, which is said to operate at less than a kilowatt per hour. Features are two-speed fan motor, air exhaust selector; suggested retail price is $299.95.

Model A-121C is a 1-hp., 115-volt unit with no suggested retail price. Model A-152C 1½-hp. unit lists at $349.95, and model A-222C 2-hp. unit lists at $449.95.

NEW Gibson "Trimline" air conditioner, measuring 17½ in. from front to back is available in ¾ and 1-hp. models.

"The three," Gibson said "have the following features: Two-speed fan, thermostat control, glass fiber filter, air exhaust, pushbutton control, permanently lubricated fan motor, and low sound level operation."

The new Trimline series can be mounted flush inside, all the way inside, half-way, through-the-wall, or against the glass on casement windows.

"FROSTY PEACH" interior, accented by soft gray trim, highlights this 1957 Gibson Strat-A-Zone refrigerator. It has lower-level freezer and four different cold zones.

Model A-751C is ¾-hp., 115-volt unit with single-speed fan, thermostat, and fresh air intake. It has horizontal type directional louvers and master dial control.

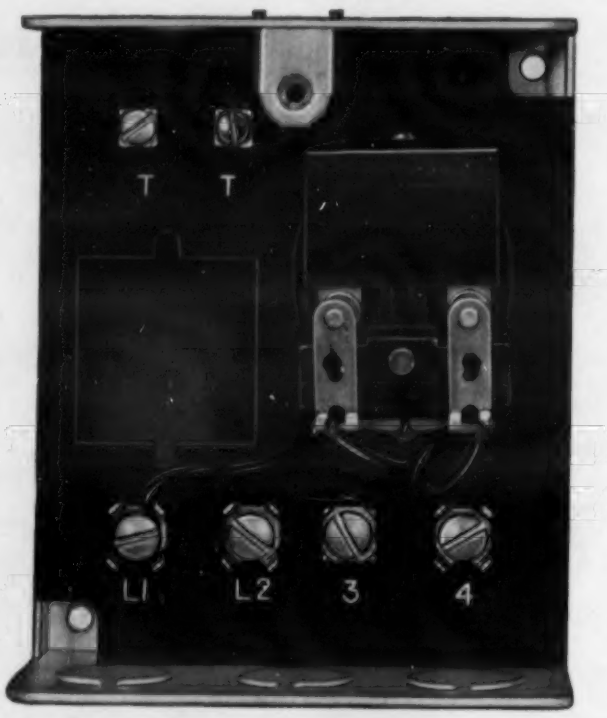
"Air is filtered before it passes through the cooling coil

(Concluded on next page)

Introducing Honeywell's

NEW SWITCHING RELAYS FOR

For sensitive control of high-current cooling compressors

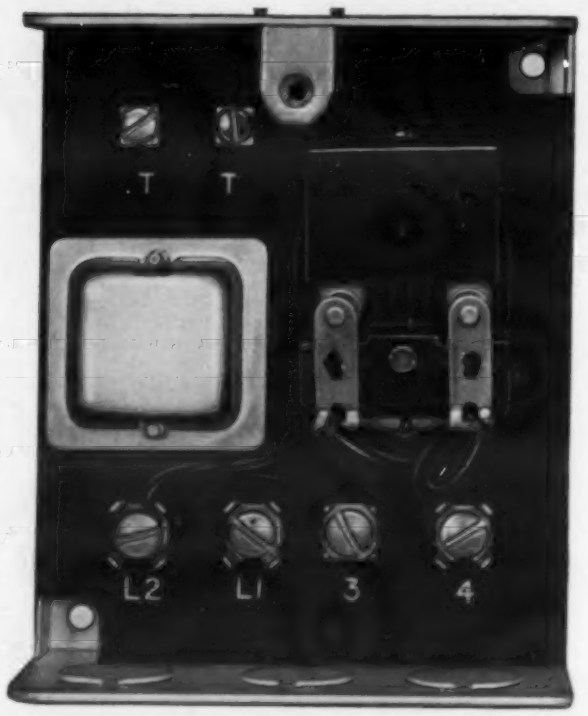


THE R 447

For use with a line voltage controller that has a separate power supply. Both the R 447 and the R 847 below are heavy duty relays. They provide the most economical control of compressors in the 10-20 amp range.

THE R 847

For use with sensitive, low voltage thermostat. R 847A Model includes a transformer and the R 847B Model is for use with an external transformer.



For more information about products advertised on this page use Information Center, page 26.

Gibson Line for 1957--

(Concluded from preceding page)

and is directed out in a draft-free pattern by a blower wheel rather than a blade type fan," the company noted.

Control panel is simulated antique white leather, and the chassis is removable type. All electrical components can be serviced by removing the control panel without sliding out the chassis. Suggested list price is $279.95.

Model A-102C is 1 hp. 230 volts, "which meets all building specifications in metropolitan areas." It has single-speed fan, thermostat, glass fiber filter, fresh air intake, and dial control. Suggested list is $329.95.

A 1-hp. 115-volt unit rated at 12 amps is model A-131C. In addition to the features listed above, it has two-speed fan motor, fresh air intake that filters outside air, and push-button controls. Price is $339.95.

Model A-122C is a deluxe 1-hp., 230-volt unit with higher capacity and more features, including electrostatic dust magnet permanent filter, air exhaust and fresh air intake, pushbutton controls. Price is $349.95.

Top of the line are a ¾-hp., 115-volt low amp model A-781C and a 1-hp. 115-volt unit, model A-181C.

Both models have sliding doors over control panel, automatic control of room temperature and air circulation, two-speed fan control, "super" dehumidification control, permanent electrostatic dust magnet filter—plus Air Sweep automatic directional cooling. Price is $369.95 for model A-781C and $389.95 for model A-181C.

All room air conditioners in the line are provided with do-it-yourself window mounting kit. The Gibson merchandising program includes a triple-tier display stand and kit with streamers, guaranteed sales plan, and a "Lucky 13" plan for preseason purchases.

Refrigerator Line

Highlights of the new refrigerator line are a two-door combination refrigerator-freezer four-section "Breakfast Locker," a wide copper gold and silver colored trim panel, frosty peach interiors, roll-out aluminum shelves, in-the-door vegetable crisper with sliding door—"plus another new Gibson exclusive, the Measure-Matic defrost system.

"One of four defrosting systems offered in 1957, the Measure-Matic eliminates pushbuttons, clocks, and similar devices used in conventional defrosting systems," the company said.

"A measuring bar on the side of the freezing compartment automatically starts the defrost operation when the frost buildup is sufficient to warrant defrosting. The measuring bar is held away from the evaporator door until the freezer compartment door is opened. Then the measuring bar moves against the side of the evaporator, measuring the frost buildup."

Three models of the 10-cu. ft. series, Gibson's price leaders, were announced by Frank L. Sacha, manager of refrigerator sales. Gross capacity is 10.52 cu. ft.; net capacity, 9.78 cu. ft.

The G-100 is a manual defrost economy model. It will retail for about $199.95, though it does not carry a suggested list price. Model G-102C is a manual defrost model with crisper, deluxe shelving, three door shelves, egg rack across the top of the door. Suggested list is $249.95. Model GP-104C has pushbutton defrost, crisper, four shelves in the door, two egg racks, and a "Butt'ry." It lists for $279.95.

In the regular line are three 13-cu. ft. models.

Model GA-133C is available with gold or silver colored trim panel as well as copper. Complete with new all-aluminum shelves and full door accessories, this refrigerator has bigger shelf capacity because of new door construction. It features the Measure-Matic defrost system, and retails for $349.95.

'Breakfast Locker' In Door

Model GA-134C includes a new four-section Breakfast Locker in the door containing: sliding-door compartments for butter and cheese, a juice compartment holding two 1½-qt. juice containers, three individual and removable egg racks—each holding a half-dozen eggs—and a bacon locker holding 1-lb. of bacon.

The interior of the refrigerator is frosty peach color with gray and silver trim. A roll-out shelf is featured. At the top of the door is a tray containing five 1-pt. leftover containers. Also in the door are three more shelves. Suggested list price is $399.95.

Model GC-135C is the 1957 version of the "Market-Master" model. It features a "Swing'r" shelf in front of a smaller shelf for leftover dishes, under which are two ice trays. It offers off-cycle defrost, and roll-out aluminum shelves; in the door are the new Breakfast Locker, egg racks, and three utility shelves. Suggested price is $329.95.

Model GA-141C is the "Strat-A-Zone," with midway freezer and four different cold zones. It has Breakfast Locker, fully automatic off-cycle defrosting, and in-the-door leftover dishes. Suggested retail price is $444.95.

Top-of-the-Line Model

Top-of-the-line is the new two-door model GTD-200C, which has over 19½-cu. ft. freezer section. Doors can be lifted off so the unit can be moved through doors 27 in. wide.

The moist-cold refrigeration unit defrosts automatically between each cycle. Other features are roll-out aluminum shelves, in-the-door vegetable crisper, sliding meat pan, sliding-door cheese and butter sections.

The aluminum interior freezer section has a shelf holding four ice trays, a door-mounted light, and a slide-out basket at the bottom. In four convenient locations are special racks, each holding six juice cans.

Three shelves are provided in the freezer. An ice cream compartment in the center holds half-gallon containers. The freezer door is easily opened with a foot pedal. Suggested list price is $749.95.

The two new upright freezers feature deep door pan, large ice cream section, two package dispensers, juice can dispenser, and built-in lock.

Model UF-16 has a slide-out basket, door racks, capacity of 15.6 cu. ft. List price is $519.95.

Model UF-20 has roll-out baskets, rearrangement shelf, capacity of 19.11 cu. ft. Suggested list price is $599.95.

Three other models introduced during 1956 include a 12-cu. ft. upright model and chest freezers having 16.5 and 19.4-cu. ft. capacities.

"CUSTOM CONTROL" AIR CONDITIONING

Honeywell panels, thermostats, sub-bases and these new switching relays, make the most complete line of residential air conditioning controls

Both the R 447 and R 847 were designed with the one-half to two horsepower market in mind.

They handle central and room conditioners, can be wired for SPST or DPST switching and can be combined with existing heating control systems.

They're economical and easy to install, require minimum maintenance and are simple to service if attention is required.

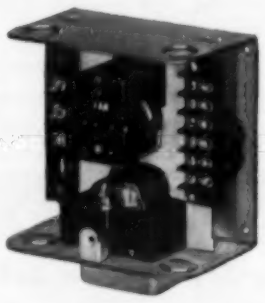
With the R 447 and R 847 plus the panels and thermostats in the complete Honeywell line, you can now give your customer the exact switch and thermostat combination he wants, plus the proper sequence of operations to best suit his needs. It is the most flexible control combination ever conceived for heating or cooling—all in one simple, easy-to-stock, easy-to-install system.

When you deal with Honeywell you take advantage of the best field service in the industry, backed by years of engineering experience plus the most complete line in the industry.

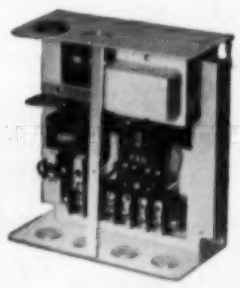
Find out how versatile Honeywell control combinations can add sales appeal to your line and help increase your profits. Call your local Honeywell office today—it's listed in the phone book. Or, if you prefer, write direct to Honeywell, Dept. AN-11-229, Minneapolis 8, Minnesota.

COMPANION PANELS

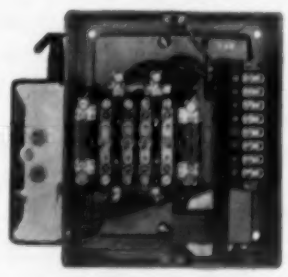
W 400
Outside condensor panel for systems with remote condensing sections.



W 226
Inside evaporator panel for systems with remote condensing sections.



W 402
"Custom" designed for two ton packaged conditioners.



W 212
For larger packaged units including water cooled units.

FAMOUS HONEYWELL ROUND, T87

This rugged and sensitive thermostat, available with a choice of Honeywell sub-bases, offers the most versatile control combinations possible.

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AIR CONDITIONING CONTROLS

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For more information about products advertised on this page use Information Center, page 26.

They'll Do It Every Time

by Jimmy Hatlo

BLOODSTONE, THE CREDIT MANAGER, TOLD OFF JOE, THE SALESMAN, BECAUSE ONE OF THE ACCOUNTS WAS NO PAY....
BUT I DID TRY TO COLLECT FROM SCHMALTZ...
OH, YEAH? WELL, THEY WON'T GIVE ME THE RUN-AROUND... I'LL HANDLE THEM IN PERSON!!
BUT THE CUSTOMER SOFT-SOAPED BLOODSTONE TOO...
JUST AN OVERSIGHT-- HEH-HEH-- I'LL SEND A CHECK FOR THE WHOLE WORKS AT THE END OF THE MONTH--
PERFECTLY OKAY! I JUST STOPPED IN TO SEE IF THERE WAS ANYTHING WE COULD DO FOR YOU... YOUR FIRM IS A1 IN MY BOOK, MISTER SCHMALTZ....
SO AFTER EXTENDING THEM MORE AND MORE CREDIT--WOT HOPPEN ??
FINANCIAL CO. SCHMALTZ CO. BANKRUPT
THANK AND A TIP OF THE HAT'LO HAT TO J. BROWN, 20 BROOCK RD. ROCHESTER, N.Y.

Possibilities and Probabilities For Gas Air Conditioning

(Concluded from Page 1)

household market for gas heating, some say.

To accomplish gas utility goals in this field, gas-fired air conditioners must overcome present obstacles of bulk and relatively high initial cost. Several companies (including Carrier, Coleman, Rheem, and A. O. Smith) are working on these problems; and one or two may be near enough to a solution to put competitive units on the market within a year or two.

Servel, Inc., the pioneer in this field, already has a new model absorption-type job which is approximately half the size of its previous home air conditioners, and much less expensive to ship and install.

Also intriguing are compressor-system air conditioners, for substantial commercial applications, powered by gas *(note: not gasoline)* internal combustion engines. Among the firms testing or producing systems are Ready-Power of Detroit, Coleman of Wichita, and Wood Electric of Little Rock, Ark.

These companies hook up Copeland, Tecumseh, Chrysler Airtemp, and Carrier refrigerating units with gas engines produced by International Harvester, Waukesha Motor Co., and D. W. Onan & Sons of Minneapolis. To date they haven't made a great many installations. And "the jury is still out" nationally, although on individual installations Ready-Power can show impressive low-operating-cost figures.

Another interesting possibility is the "Stirling engine," developed by the mighty Philips organization of Eindhoven in Holland. American Gas Association is financing experimentation with this unit.

Also, Rheem is showing prototypes of a gas-jet system.

All these projects are encouraging.

Previously problems of distribution, sales, installation, engineering, service, and maintenance have discouraged gas utilities from investing heavily in promoting the air conditioning market. However, approximately one third of the gas send-out goes into homes. And the residential market accounts for almost 60% of total gas industry revenue. Hence, forward-looking gas utilities should be aware of their need to develop gas air conditioning.

Already it is too late for the gas industry to "get in on the ground floor" of the summer cooling business. But what of the future?

In 1950 gas air conditioning units accounted for 10% of the residential air conditioning total. However, in 1955 gas air conditioning residential installations were only 2.5% of the total. Will this trend disparity continue?

Of one thing we can be sure: gas utilities SHOULD be eager and willing and able to aid and abet the growth of the air conditioning business within THEIR industry. They need year-round air conditioning, fueled by gas, to balance annual load factors and to maintain their home markets for the future.

Somewhat sadly, at this moment, gas salesmen who yearn to tap the summer cooling market for their utility employers are handicapped by an astonishing lack of gas air conditioners. Servel alone can produce tested all-year absorption-type air conditioners. Why doesn't Servel have a competitor in this field? Answer: high manufacturing and distribution costs, as compared to electrical rivals.

Gas-engine-driven commercial air conditioning systems are being tested tentatively in the Southwest. Thus far they haven't made much headway because they, too, haven't been helped sufficiently by the people who have the most at stake—the gas companies themselves.

What's ahead for the gas industry *in re* air conditioning? Frankly, not much, unless it jumps into the fray ACTIVELY. This will require investment in promotion and distribution, plus assistance to manufacturers (grants-in-aid) in development of competitive equipment. You see, they will be playing in a tough league, as a sportswriter would put it.

Today too many gas utilities apparently feel that the gas load is a safe load. That's an ostrich attitude. It becomes more and more apparent that something has to give because of the activities of the electric utilities and their supporting manufacturers —the General Electrics, Westinghouses, etc., who are making electric generating equipment and will go all out to promote greater use of electrical energy. By producing and actively merchandising residential air conditioning, room coolers, heat pumps, strip heaters, add-on air conditioning equipment, and commercial package air conditioners, they are upgrading their market for generating equipment.

There are no such corporate giants supporting the sale of gas. True, small range manufacturers and a few furnace manufacturers promote gas desultorily—but there are no gigantic corporations like General Electric or Westinghouse or General Motors or Chrysler spending huge sums on research, advertising, and distribution to underwrite gas progress.

Therefore it would seem that the gas industry should become more active in merchandising more products which will *create* a residential load for them. Air conditioning shows the greatest promise for realization of so desirable a goal.

Pioneering presently sparse gas air conditioners may involve a high promotion and development initial cost for a few years. As more gas volume is generated, of course, these costs can be reduced relatively. Moreover, if such pioneering costs are not subsidized by gas utilities, their heating loads will be jeopardized, and their complete residential load will be at stake.

Years ago, because of inertia, gas people lost the lighting load. Advent of electric and electronic ranges have inroaded the kitchen load. And if the home comfort load is lost, gas people perforce may have to check out of the residential market eventually, and devote all of their efforts to less interesting industrial consumption.

Aggressive selling and merchandising gas air conditioning—and financing manufacturer development—is indicated. Otherwise the consumer parade will pass on by the gas industry, as it has done occasionally in the past.

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AIR CONDITIONING & REFRIGERATION NEWS

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'The Conscience of the Industry'

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: $6.00 per year; 2 years, $9.00; 3 years, $12.00. All other countries: $10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

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VOLUME 79, NO. 10, SERIAL NO. 1,442, NOVEMBER 5, 1956

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

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ARI Announces 'Great Approval'

ARW Plans 'Product Knowledge Clinics'; First To Be In Chicago Dec. 14 to 15

NEW ORLEANS—A vigorous program of education for all elements of the industry engaged in the application of the industry's products will be made available in a special program of "Product Knowledge Clinics" sponsored by the Air Conditioning and Refrigeration Wholesalers association.

This was announced during the recent annual convention of the ARW here. The educational program plans of the ARW has the "great approval of the directors and product sections of the ARI," George S. Jones, Jr., ARI's managing director, told the assembled supplies and equipment wholesalers.

Officers and Directors

Irving J. Fajans, Aetna Supply Co., New York City, was elected president of ARW for the coming year. W. J. Hieber, Refrigerative Supply, Inc., Portland, Ore., is vice president; Charles G. Koopman, Supply Distributors Corp., Boston, is secretary; and W. C. Meissemer, Arizona Refrigeration Supplies, Inc., Phoenix, is treasurer.

New directors are Merle Titus, Dennis Supply Co., Sioux City, Iowa; and Boyd Evans, United Refrigeration Supply Co., Memphis. Fajans and Hieber were re-elected to the board of directors. . .

First move in the program will be the Product Knowledge Clinic to be held Dec. 14-15 at the Morrison hotel in Chicago under the sponsorship of ARW Region 6 (wholesalers from Illinois, Wisconsin, and part of Indiana). This will serve as a pattern and test program, for later programs to be put on in other regions throughout the country.

How 'Product Knowledge Clinic' Will Operate

The Product Knowledge Clinic in Chicago will consist of a series of "clinic" sessions in the form of panel discussions on particular subjects of interest to dealers and contractors, with experts from manufacturers and other elements of the industry serving on the panel to lead these discussions.

Also, such manufacturers as wish to participate will have individual "conference booths" in the hotel, manned by their representatives, prepared to answer questions from those attending the Clinic on specific problems or matters pertaining to the individual product.

This particular phase of the program will be somewhat similar to the former ARI-RSES Educational Conferences, except that there will be no educational exhibits in the manufacturers' booths.

The two-day program will wind up with a lavish entertainment program in the Terrace Room of Chicago's Morrison hotel.

"It is time for the wholesaler to bring some product knowledge to his customer—and in so doing, become a better supplier to the field," declared J. P. Glass, Chase Supply Co., Inc., a former national president of ARW, and member of the committee in charge of the Chicago Clinic.

"Those of us who have worked on the development of the Product Knowledge Clinic believe it is the proper way to sell the idea that the ARW wholesaler is the logical firm to look to for all supplies needed in air conditioning and refrigeration work, and also as an 'information center' for knowledge on products used in this field."

Stating that the "manufacturer must regard the supplies wholesaler in the light of how the wholesaler will best implement the sales of his products," Herman Goldberg, Standard Re-

(Concluded on next page)

61% of Polled ASW Members Are 'Part Way' Into Heating Field, 19% 'All the Way'

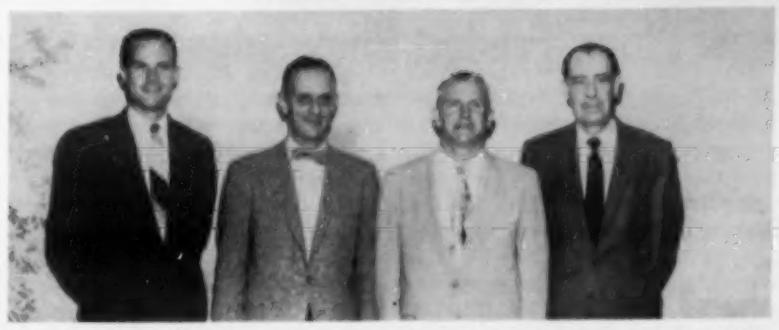
NEW ORLEANS — Members of the Air Conditioning and Refrigeration Wholesalers Association are well into the business of carrying equipment and supplies for the heating trade, according to a poll taken during one of the ARW convention sessions here.

The poll showed that of those ARW members who were present at the annual convention.

19% were "all the way" into the field of heating supplies, meaning that they handled equipment and supplies for complete installation in both the warm air and "wet" heating fields.

61% handled "some heating supplies" in various degrees, but did not qualify themselves as being "all the way" in the heating supplies field.

20% confine their operations to cooling equipment supplies.

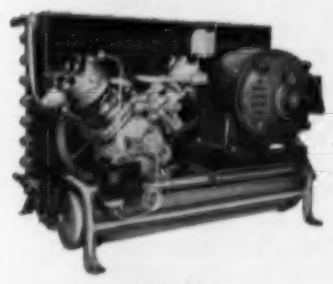


NEW OFFICERS of ARW are from left to right: Charles G. Koopman, Supply Distributors Corp., Boston, secretary; W. J. Hieber, Refrigerative Supply, Inc., Portland, Ore., vice president; Irving J. Fajans, Aetna Supply Co., New York City, president; and W. C. Meissemer, Arizona Refrigeration Supplies, Inc., Phoenix, treasurer.

DEPENDABILITY
and
LESS SERVICE
That's Why
More and More
Wholesalers Are
Successfully
Standardizing On
KELVINATOR

HERMETIC CONDENSING UNITS

COMPRESSORS



OPEN-TYPE CONDENSING UNIT

Every day wholesalers are proving that the dependability of Kelvinator equipment assures them complete customer satisfaction.

More and more responsible, aggressive wholesalers have found that the sound policies and selling practices in Kelvinator's new comprehensive wholesaler program assure them more sales and more profits, more customer satisfaction.

It will be well worth your while to study the advantages of this new Kelvinator wholesaling plan. Write today and get complete information on our many real advantages . . . our proved wholesaler program . . . our dependable products from a reliable source of supply.

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American Motors Means More for Americans

SPECIALISTS IN REFRIGERATION SINCE 1914

ARW Plans 'Product Knowledge Clinics'--

(Concluded from preceding page)

frigeration Co., presented the manufacturers' viewpoint on the purpose and value of the Product Knowledge Clinic. He is working with the ARW committee in charge of the Chicago Clinic, and is in charge of the entertainment program for that affair.

"The air conditioning end of the business is no longer a matter of supplying just 'parts,' but rather all of the components that go to provide year-round comfort," Goldberg said.

Panel Discussions

"A special effort will be made to inform and invite all of those people in the area who are connected with any phase of the business, to participate in the Clinic. Dealer and contractors in the heating field have been coming to ARW wholesalers for product knowledge, particularly in the cooling phase of air conditioning, and this group will certainly be invited to participate.

"Transmission of information about products and methods is a prime factor in the growth of an industry, and an important tool for any individual supplier in getting and holding business."

Starr Hull, executive secretary of ARW, reported that the Product Knowledge Clinics have the endorsement of ARI, and offered some detail on the manner in which the Clinic will operate.

All Interested People Will Be Invited

The panel discussions will cover six or seven subjects, which include some topics involving sheet metal operations and industrial air conditioning applications, as well as commercial and residential air conditioning, and refrigeration equipment generally.

Manufacturers will have discussion booths where questions on specific products and models can be asked. These will probably be manned primarily by field representatives. However, engineers from the various manufacturers' headquarters, plus other authorities, will be on the panels for the general Clinic discussions.

Hull said that "package program" for Product Knowledge Clinics in other regions will probably follow the general plan for the Chicago affair, including the two days for the Clinic, followed by entertainment on the second night.

Retiring President Reports on Progress

E. L. Tramposh, Refrigeration Equipment Co., Kansas City, Mo., ARW retiring president, reported progress on a multi-point program which the association is backing. Points in the program:

(1) Support for efforts to develop more and better-trained engineering and sales personnel.

(2) Cooperative efforts to advance the sale of the industry's products.

(3) Advancement of better "in warranty" service and replacement parts programs by manufacturers, to assure better servicing in the field. ARW efforts to get individual manufacturers to improve their "in warranty" programs are proving successful, Tramposh declared.

(4) Recommended standard catalog page treatment for wholesaler catalogs has gained acceptance rapidly, and will result in better catalogs at lower cost.

(5) More and more manufacturers are issuing net cost pricing sheets, as recommended by ARW, thus reducing confusion among buyers on prices.

(6) Programs for better training of field salesmen and counter personnel working for wholesalers has received good support from manufacturers.

(7) Product Knowledge Clinics will soon be started, and in addition to bringing about increases in sales, they should enhance the position of the ARW wholesaler.

LEFT: This 14.1-cu. ft. Frigidaire refrigerator-freezer combination has new "Sheer Look" with squared-line styling to merge with room design.

NEW 12.1-cu. ft. Frigidaire refrigerator-freezer model has built-in "Ice Ejector" on top freezer door.

'57 Frigidaire Appliances--

(Continued from Page 1)

"The products will blend into any kitchen, old or new."

C. H. Menge, general manager of Frigidaire, said development of the new styling was based on experimental work on Frigidaire "Kitchens of Tomorrow" which began over three years ago.

"The favorable reaction of the millions of homemakers who saw our three Kitchens of Tomorrow encouraged us to put this Sheer Look into production, which we did last summer with the introduction of our new home laundry equipment."

In addition to the sheer styling lines, the 1957 products come in an array of exterior colors. Appliances are available

(Concluded on next page)

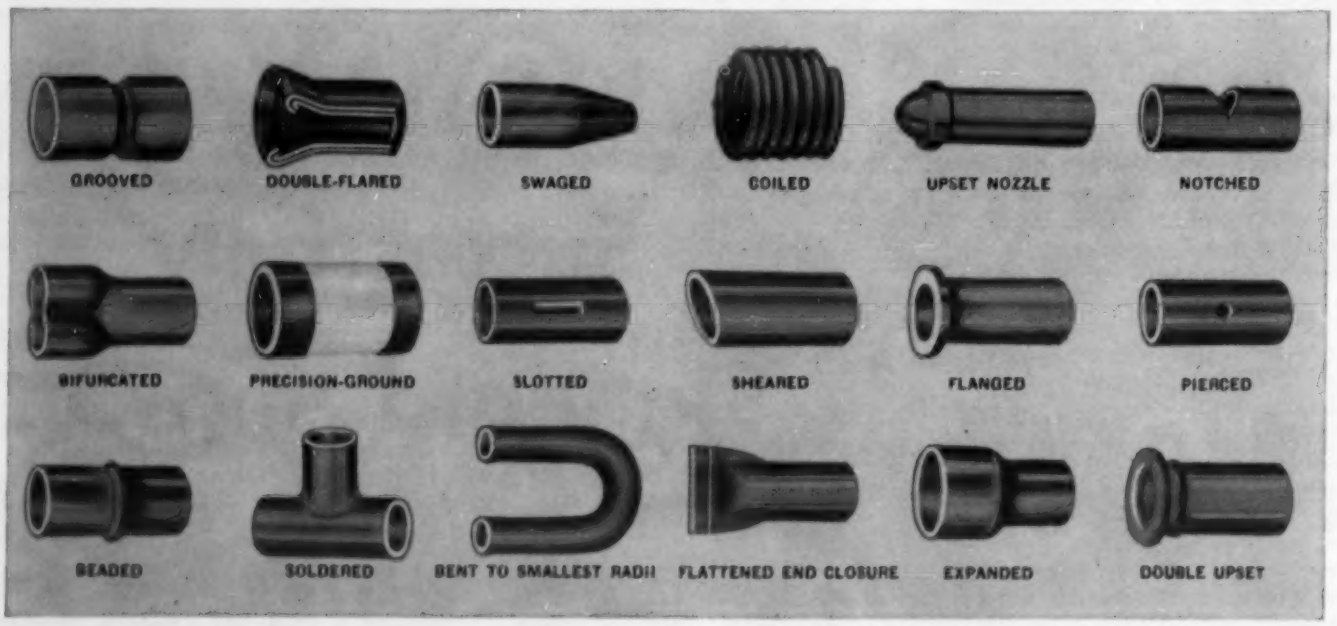
Call on Bundy for the best in

Bundy engineers and versatile Bundyweld Tubing can beat the knottiest tubing design problems

IF YOU think it can't be done with tubing, it's a challenge to Bundy®. For years, Bundy engineers have specialized in working with customers and prospects, solving the insolvable. A unique combination of imagination and experience, plus the extreme versatility of Bundyweld® Steel Tubing, has paid off again and again.

Check first with Bundy for workable solutions to your tubing design problems. Whether you are in the design, developmental, or application stage of your product, Bundy will be glad to work with you. Hundreds of manufacturers have already used this Bundy service to advantage.

For instance, if your particular product involves bending small-diameter tubing, you will find, at right, how . . .



Shown above are but a few of the fabrication operations which are possible with Bundyweld Steel Tubing. Many of these, and others not shown, were developed through solving a specific problem brought to us by a customer or prospect. At any stage in the development of your product, Bundy invites you to take advantage of this design service.

BUNDYWELD IS DOUBLE-WALLED FROM A SINGLE STRIP

Bundyweld starts as a single strip of copper-coated steel. Then it's . . . continuously rolled twice around laterally into a tube of uniform thickness, and passed through a furnace. Copper coating fuses with steel. Result . . . Bundyweld, double-walled and brazed through 360° of wall contact.

NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead, and less chance for any leakage.

For more information about products advertised on this page use Information Center, page 26.

Frigidaire's '57 'Sheer Look'--

(Concluded from preceding page)

in a new charcoal gray as well as "Mayfair pink," "Stratford yellow," "Sherwood green," and white.

Describing refrigerator design advancements, the company said the door is inset in the refrigerator cabinet "like a picture in a chromium frame. Door seal, wires, hinges, and latch are no longer visible."

"Because of this new concept," Frigidaire pointed out, "it is possible to install kitchen base cabinets flush with both sides of the free-standing unit.

"And it is no longer necessary to leave the traditional dirt-catching, space-wasting gap between the kitchen cabinet and the hinged side of the refrigerator. The new door swings open 180° before touching the base cabinet snugly-fitted alongside.

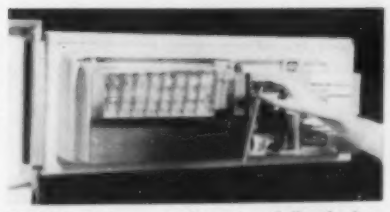
Frigidaire designers also have incorporated a new modular concept into 1957 models.

"Refrigerators are built on a popular 4-in module in 29, 28, and 32-in. widths," it was explained. "The depth of refrigerator cabinets has been carefully coordinated with dimensions of standard type base cabinets, assuring close harmony of design lines throughout the kitchen."

'Cold Pantry' Models Feature 'Flowing Cold'

At the top of the 12-model refrigerator line are two large "Cold Pantry" models with "flowing cold" refrigerating systems. One of these (CP-141-57) has a 140-lb. capacity freezer at the bottom of the cabinet with a separate door. The other is a single-door model (CP-123-57).

A new built-in, lever-operated "Ice Ejector" is a feature in the freezers of these models.



TOUCH a lever and a tray-full of dry, frosty ice cubes cascade into basket ready for serving in this 1957 Frigidaire freezer-refrigerator.

"The homemaker has merely to slide a tray into the device, pull a lever, and a whole pound of frosty, dry cubes cascades into a storage and serving bin," the company said.

To supplement the big "Picture Window Hydrator" in the door, there's a drawer-type storage unit for fresh fruits and vegetables in the food compartment. Roll-out shelves and special storage facilities are other features.

What Frigidaire calls a "new food storage concept," the "Plan-A-Door," is a development in two Imperial models (FI-121-57 and FI-120-57) and three "Deluxe" refrigerators.

Special compartments and shelves in the door provide storage space for a wide variety of items — including eggs, cheese, butter—and ranging in size from one-half gallon milk containers to the smallest condiment jar. Not only are the shelves movable, but compartments as well, permitting the homemaker to arrange them to her personal preference.

Bottom Freezer Included In 10.2-Cu. Ft. Unit

The three Deluxe refrigerators include models in sizes of 12, 10.2, and 10.1 cu. ft. (FD-120-57, FD-102-57, and FD-101-57). For the first time, a bottom freezer is incorporated into a Deluxe refrigerator, the 10.2-cu. ft. model. A "flowing cold" refrigeration system is featured.

Another new refrigerator in the budget class is a 10.1-cu. ft. "Super" model (FS-101-57) which has the same "Cyclamatic" refrigeration and automatic defrost system of top-line models.

Four other Super refrigerators round out the line. Included are 12.4, 10.4, and 8-cu. ft. models (S-124-57, S-104-57, and S-80-57). In addition, there is an 8-cu. ft. apartment house refrigerator (SA-80-57).

Frigidaire's Sheer Look styling concept is carried out in 10 porcelain-finished electric range models in 30 and 40-in. sizes. All models have tops with raised, non-spill edges. The line includes models with two ovens, large-capacity single ovens, and the "Wonder oven" that broils and bakes simultaneously.

Sees Nearly 15 Million Appliances Sold In '57

At a national press preview of Frigidaire's 1957 appliances, Lehman said "It looks as though 14,750,000 appliances will be sold next year, and about 18,000,000 in 1960. This compares with 13,815,000 that will be sold this year."

Stating that go-together styling of products is encouraging the purchase of more than one appliance at a time. Lehman said color "has been gaining ever since Frigidaire pioneered matching refrigerators and ranges in color three years ago.

"This year we had one model refrigerator that sold 12% in color, and one range that hit 21%. Both were top-line models."

He said the advent of built-in range equipment "also has a tendency to obsolete present-day kitchens. Built-ins, like color, are not a predominant factor in the market, but they certainly are a growing factor. Sales of built-in ranges this model year represented nearly 17½% of all electric range sales up from 10% the previous year."

Commenting on dealer franchising and on service, Lehman said, in part:

To Concentrate on Training Servicemen

"We have always been highly selective in our dealer franchising, basing our success on a sound retail selling organization.

"We have always stressed the importance of service and right now we are taking steps to concentrate even greater attention to training servicemen. . . .

"This year a total of 20,000 Frigidaire servicemen attended schools or training courses, representing nearly a quarter of a million man hours of training. The two new schools in Pittsburgh and Detroit, having complete shop facilities as well as a modern kitchen, enable us to do an even better training job than in the past."

tubing, design help, and fabrication

New mass-produced return bends help you solve design problems where space is limited

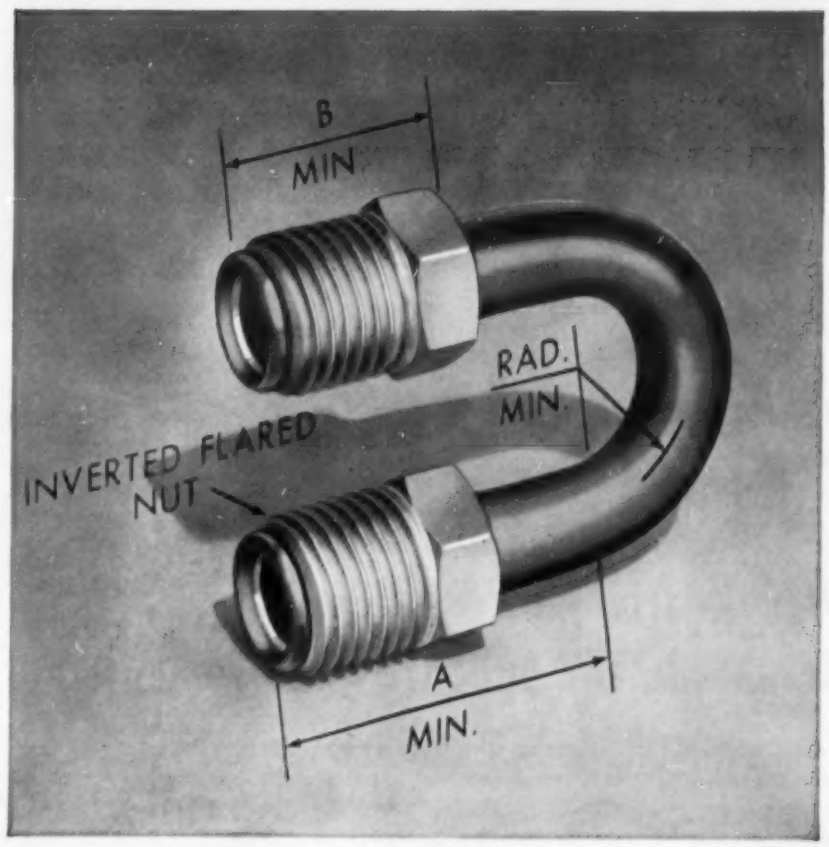
DESIGNING hydraulic actuators for automotive and other uses involves bending tubing to minimum radii, because of severe space limitations in small hydraulic "packages."

At the request of leading fabricators, Bundy has established new minimum standards for the mass production of return bends with fittings attached, in tubing from 3/16" to 5/8" O.D. For special problems, where space is more important than speed of production, Bundyweld can be fabricated to even closer tolerances.

Bundyweld Tubing takes such fabrication easily because it's the only tubing double-walled from a single metal strip, copper-bonded through 360° of wall contact. The result: stronger tubing that withstands heavy vibration fatigue, has high bursting strength and high thermal conductivity. No wonder Bundyweld is the accepted standard of the refrigeration and automotive industries: *it is used in 95% of today's cars, in an average of 20 applications each.*

Add Bundy's expert, free engineering service, and you know why Bundyweld Tubing solves even the most difficult tubing problems. Call, write, or wire us today!

BUNDY TUBING COMPANY
DETROIT 14, MICHIGAN



TUBE O.D.	3/16	1/4	5/16	3/8	7/16	1/2	5/8
RAD.-MIN.	5/16	3/8	5/8	3/4	7/8	1	1½
A-MIN.	3/4	7/8	1	1 1/16	1 1/8	1 1/4	1 3/8
B-MIN.	5/8	5/8	1 1/16	2 3/32	3/4	1 3/16	7/8
Bundy Part No. of S.A.E. St'd Inverted Flared Nut	P-2208	P-2205	P-2206	P-2207	P-2266	P-2267	P-2359

BUNDYWELD® TUBING

Bundy Tubing Distributors and Representatives: ***Cambridge 42, Mass.:*** Austin-Hastings Co., Inc., 226 Binney St. • ***Chattanooga 2, Tenn.:*** Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • ***Chicago 32, Ill.:*** Lapham-Hickey Co., 3333 W. 47th Place • ***Elizabeth, New Jersey:*** A. B. Murray Co., Inc., Post Office Box 476 • ***Los Angeles 58, Calif.:*** Tubesales, 5400 Alcoa Ave. • ***Philadelphia 3, Penn.:*** Rutan & Co., 1717 Sansom St. • ***San Francisco 10, Calif.:*** Pacific Metals Co., Ltd., 3100 19th St. • ***Seattle 4, Wash.:*** Eagle Metals Co., 4755 First Ave., South ***Toronto 5, Ontario, Canada:*** Alloy Metal Sales, Ltd., 181 Fleet St., E. • **Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.**

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING • AFFILIATED PLANTS IN AUSTRALIA, ENGLAND, FRANCE, GERMANY, AND ITALY

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Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.
PRESSURE GAUGES and Dial Thermometers for all services.
MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.
MARSH INSTRUMENT COMPANY
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REFRIGERATION
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WE SAVE YOU MONEY because we're specialists, with the largest selection in the world—over 10,000 items—at lowest prices. They're all illustrated, priced and described in our newest HARRY ALTER DEPENDABOOK—"the standard of the trade."

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Bulletin Describes Evaporator Valve

———KEY NO. R-1110———

MILWAUKEE — A new sales bulletin illustrating and describing the A-P model 235S evaporator pressure regulating valve was recently released by A-P Controls Div. of Controls Co. of America.

The model 235S valve was redesigned to incorporate operating and construction improvements developed in the A-P laboratory and after intensive field surveys of this valve, the company said.

Recold Issues Catalog On 'Dri-Fan' Condensers

———KEY NO. R-1111———

LOS ANGELES — Refrigeration Engineering,Inc. has recently issued a new "Recold Dri-Fan" condenser catalog (30C6a) for both "Freon" and ammonia which features many new additions that were not included in the previous catalog.

Highlights of the new catalog are: Inclusion of data for selection of Dri-Fan condensers as an evaporative water cooler; information on how to select and size multi-circuits; material showing the use of hot-dipped galvanized modulating dampers to avoid low head pressure due to air temperature drops, or reduction of load on condenser.

Also included in the catalog are capacity tables, dimensions, fan tables, information on desuperheat coils and typical specifications for ammonia, "F-12," and "F-22" condensers.

Notching, Punching Machine Illustrated

———KEY NO. R-1112———

BUFFALO—Illustrated bulletin 79-D was recently published by Niagara Machine & Tool Works here to describe model 65-5 air power notching and punching machine.

Complete information and specifications are included for this machine as well as for No. 5-24 hand lever punch and shear.

Detailed photographs show the variety of uses of these items, the firm said. Illustrated also is the punch and die selection which is interchangeable between these two models.

Remote Liquid Level Gauges Discussed

———KEY NO. R-1113———

SOMERVILLE, Mass.—A newly revised eight-page, three-color catalog was issued recently by Jerguson Gage & Valve Co. to cover its latest designs in remote reading liquid level gauges.

It describes the newly developed "Red Flasher Truscale" on which the scale flashes continuously in red for a positive warning when boiler level gets too high or too low.

Illustrated with photographs and engineering drawings, catalog 291 covers remote reading gauges in four pressure groups from under 900 p.s.i. to over 1,500 p.s.i.

Worthington Bulletins Fan, Coil Room Units

———KEY NO. R-1114———

HARRISON, N. J.—Worthington Corp. recently made available a new bulletin on its new fan and coil room air conditioner for year-round air conditioning of multi-story buildings.

Special features of the unit described in Bulletin C-1100-B88P include a toe plate which eliminates return air grille and allows easier cleaning of the room; a drain pipe constructed of heavy steel and coated with mastic to protect against corrosion; and a life-time lubricated fan motor connected by direct drive to the fans.

Catalog Details Centrifugal Fans

———KEY NO. R-1115———

DETROIT — A new eight-page illustrated catalog (Bulletin No. 4824) describing the new "Airfoil" centrifugal fans for heavy-duty industrial applications is now available from American Blower Corp. here.

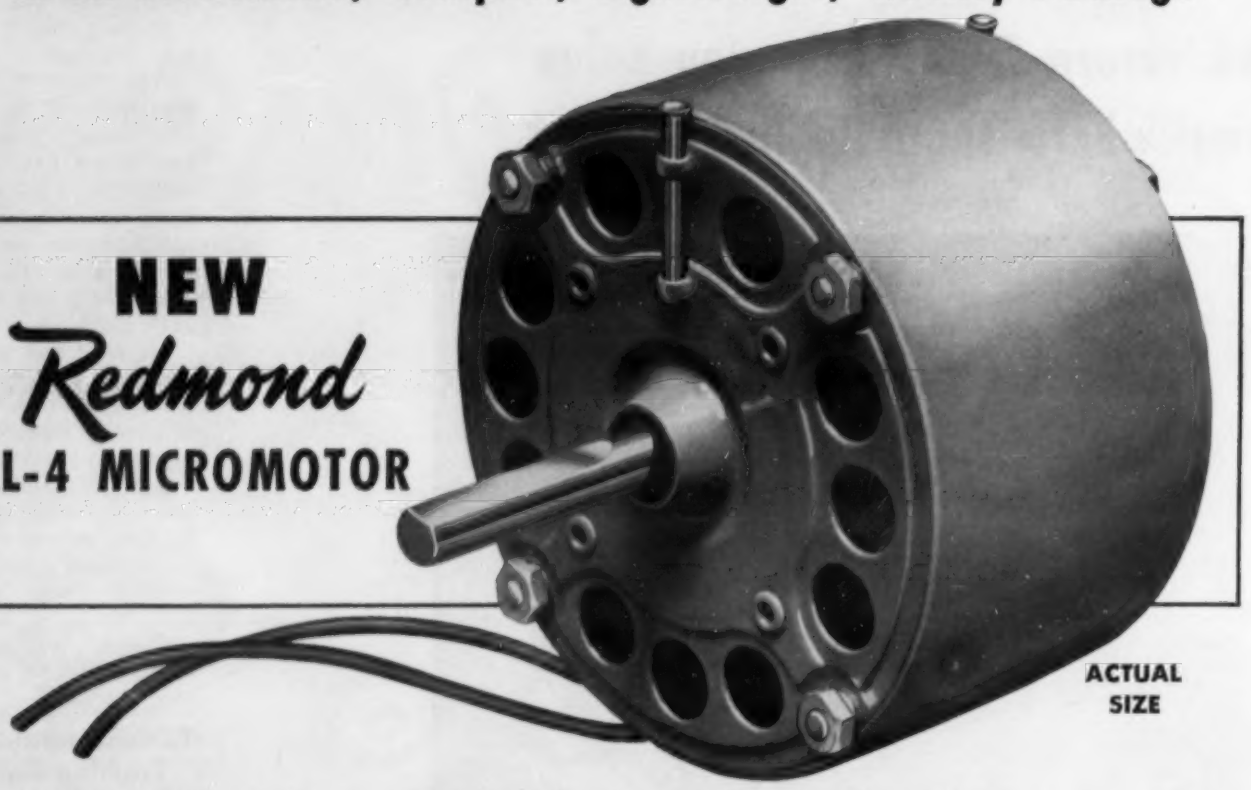
The bulletin discusses the performance features and construction details of the fans. The discussion is supplemented with photos and drawings of wheel, housing, bearings, shaft, bearing supports, and inlet screens.

Several possible volume control methods that can be used with the fans are described and evaluated in the new catalog. Brake horsepower curves for four volume control methods are also included. These curves compare the power requirements at varying degrees of fan delivery for damper control, vane control, variable speed a.c. motor control, and adjustable speed fluid drive control.

MORE HORSEPOWER . . .

in an Economical, Compact, Lightweight, Quality Package

NEW Redmond AL-4 MICROMOTOR



ACTUAL SIZE

Designed for a Wide Variety of Applications . . .
or can be Tailor-Made for Specific Requirements

Here is a motor designed and styled to meet the modern demands for motors that are smaller and lighter, and yet have increased output. It is ideal for heating, ventilating, air conditioning or refrigeration equipment, for appliance applications, and for business and vending machines, pumps, tape recorders, and dozens of other applications.

The basic AL-4 is a 4-pole motor, 1550 r.p.m., 115 volts, 60 cycles, available in odd voltages and frequencies. The normal horsepower range is 1/250th to 1/15th. It incorporates two famous Redmond design features that have never before been available in a small diameter motor:

1. The patented Redmond Tri-Flux® design that greatly increases starting and running torque and improves efficiency over conventional small diameter motors;
2. The Uni-Cast® construction that gives a rigid, lightweight motor that can be manufactured to extremely close tolerances.

Because with Uni-Cast construction the stator core frame is precision die cast in one piece, the registers are machined concentric to the bore to extremely close tolerances. The exact bearing alignment and uniformity of air gap achieved with this precision manufacturing result in a motor that is whisper-quiet in operation and can be depended on to give years of trouble-free service.

Casting the stator core frame in one piece not only makes the motor most rigid, but it is light in weight, as a very durable and lightweight metal is used.

This modern motor can save money on a host of applications. If you are looking for a motor in volume quantities, send for the literature described below.

SEND FOR COMPLETE PERFORMANCE DATA

For the complete story on the new AL-4 motor—dimensions, performance, operational data, and suggested applications—write for the "AL-4 Bulletin."

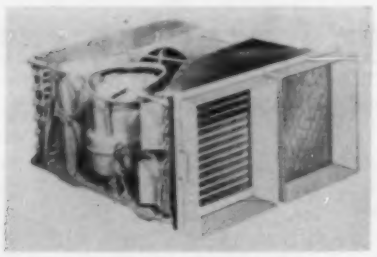
The Standard of Dependability

Redmond COMPANY, INC.
OWOSSO, MICHIGAN

ADVERTISED IN The Saturday Evening POST

THE BIG NAME IN SMALL MOTORS

For more information about products advertised on this page use Information Center, page 26.



PACKAGE UNITS that the company claims can be installed almost as easily as room air conditioners now are being offered by Mitchell Mfg. Co. Mitchell's QR series requires only a single electrical connection, no refrigeration piping, and no extensive plumbing connections.

Mitchell Year-Round Conditioner Features Simple Installation

CHICAGO—A residential air conditioner "that can be installed almost as simply as a room unit" is being offered to appliance dealers by Mitchell Mfg. Co.

Mitchell's QR series, residential multi-room package units in 2 and 4-hp. sizes, requires only a single electrical connection, no refrigeration piping, and no extensive plumbing connections, according to the firm.

"QR units are supplied complete with a ductwork package, the exclusive Mitchell 'Max-Cool' short run duct system, which eliminates the necessity of the person making the installation being a refrigeration engineer," the company said.

"The Max-Cool system is engineered and constructed in such a way that it is virtually impossible to mis-apply the unit in installation. It installs so simply that QR units can be sold on a 'do-it-yourself' basis with the customer making his own installation. No special knowledge or extensive skill with tools is required.

"Mitchell's QR units are compact and may be placed in the attic, basement, or crawl space. They can be attached to existing ductwork as well as installed with Max-Cool duct system."

Janitrol Div. Names Stephen F. Smatlak Sales Representative

COLUMBUS, Ohio—Appointment of Stephen F. Smatlak as field sales representative for Janitrol Div. of Surface Combustion Corp. in the Long Island, New York area has been announced by K. G. Hull, Janitrol district sales manager.

Smatlak will represent the Janitrol line of residential, commercial, and industrial cooling and heating products.

Virginia Power Co. To Expand Promotion of Year-Round Residential Air Conditioning

RICHMOND, Va. — The Virginia Electric and Power Co., following a study recently completed, has announced a new sales activity in year-round air conditioning and space heating.

The study demonstrated that the addition of the heat pump and other electric heating loads would result in a better annual load factor in future years when summer loads as a result of air conditioning will cause a higher kilowatt system annual peak.

The study also indicated that the various forms of electric heating and cooling have received customer acceptance in the Vepco territory.

The company is expanding an existing program of training technical sales personnel in all phases of year-round air conditioning and electric space heating prior to launching a promotional program.

An explanatory booklet outlining the fundamentals of year-round air conditioning will be published under company imprint and distributed to construction interests and prospective homeowners, the company said.

Display materials and other forms of advertising will be scheduled under a coordinated program with manufacturers, distributors, and dealers, it was noted.

The ultimate objective of the promotion will be installations satisfactory to the customer, both in performance and economy of operation.

To further this aim the company will work with manufacturers, distributors, dealers, and contractors who meet standards necessary for satisfactory installations.

These standards include: (1) adequate construction and engineering specifications, (2) effective insulation of the space to be heated, (3) proper installation of heating units, and (4) thermostatic controls that provide operating economy.

The first step in the company's program was a two-day training school completed by 35 of Vepco's key sales personnel. An additional 13 members of the sales staff have completed the course at the General Electric Weathertron Institute, it was added.

Manufacturers' representatives cooperating in conducting the school and providing instruction were: G. A. Erickson of Wood Conversion Co., St. Paul; H. S. Steece of Libby-Owens-Ford; Russell Ranson and O. M. Thompson of Edwin L. Weigand Co.; B. A. Needham of Continental Radiant Glass Corp.; F. T. Walsh of Sunwarm, Inc., Kingsport, Tenn.; W. O. Tirrill, of Westinghouse Corp.; Robert Cressman of General Electric Co.; T. L. Sharkey of Ebasco; and C. E. Anderson, Vepco commercial and residential sales director.

ASRE Elects Daugherty Membership Chairman

COLUMBUS, Ohio — C. E. Daugherty, refrigeration engineer at Armstrong Furnace Co., has been elected to the chairmanship of the Membership Committee, American Society of Refrigerating Engineers, it was announced here.

The Chicago Mill engineered and laboratory-tested container, designed specifically for air conditioners, is shown in use at the Mitchell Manufacturing Company plant.

here's the most practical container for shipping air conditioners!

In order to meet the requirements of the growing air conditioning industry, Chicago Mill had its engineers design the best possible container for the protection and shipment of air conditioners. The hinged corner plywood container that was developed offers these advantages:

75TH YEAR

- Maximum protection
- Low cost
- Fast assembly
- You can stack them 20 high for compact storage with a good factor of safety

Contact your Chicago Mill representative for complete information.

A shipping container for every shipping purpose

Wirebound
Nailed or Hinge Corner
Cleated Plywood
Cleated Craveneer
Cleated Corrugated
Watkins Type Containers
Shop and Tote Boxes
Woodsteel Nesting Boxes

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FOR DOMESTIC OR EXPORT
FOR PEACE OR DEFENSE

FOR SAFER TRANSIT BY • TRUCK • BOAT • TRAIN • PLANE

CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street — Chicago 3, Illinois

Plants at: Helena, Arkansas • Greenville, Mississippi • Rockmart, Georgia • Tallulah, Louisiana • South Fork, Colorado • Chicago, Illinois

ASPIR-JET
SPRAY NOZZLES RAISE TOWER EFFICIENCY

The swirling, atomizing action of the water as it goes through the Aspir-Jet means more effective heat transfer and higher efficiency from any spray-filled cooling tower. Pressure as low as ½ pound gives effective water break-up and distribution. Formed of butyrate plastic, Aspir-Jets will not corrode.

• Available through Refrigeration and Air Conditioning Wholesalers.

Manufacturers & Refrigeration Wholesalers: if you are not now using or stocking this astounding new product, wire or write

THERMAL AGENCY
National Sales Agents
1515 DALLAS • HOUSTON, TEXAS

Air Conditioning Coin Machine Shop Cuts Mechanics' Summer Absenteeism

Using Existing Ducts, Installing Traveler Duct Permit 7½-Ton Unit To Condition Area

ST. LOUIS—Air conditioning of its shop has helped J. S. Morris & Sons, one of the oldest and largest coin machine agencies in St. Louis, to lick an industry problem—a sharp drop in collections throughout the summer months.

Consequently, the firm is showing a far better summer profit return.

The company operates juke boxes, vending machines, pin tables, kiddie rides, and similar devices throughout the St. Louis area, with a total well above the 500 mark.

Prior to installation of the $2,800 air conditioning system, which also serves other building areas, the city's muggy summer weather caused a lot of absenteeism in the Morris headquarters on Olive St. in midtown St. Louis.

Mechanics Disliked Precision Repairs In Hot Atmosphere

"Coin machines have become more and more complex," Walter Morris pointed out, "and repairing precision electronic equipment in an unpleasant, hot atmosphere is certainly not a prospect which any of our mechanics relish.

"Before we air conditioned the building, it was not unusual for half of the men to be absent at a time, much preferring to work on location owners' equipment in air cooled taverns, cocktail lounges, restaurants, etc., than making repairs in the shop.

"As a result, we found, we were losing collections badly where the coin machines involved needed complete overhauls or repair work which would require several hours in the shop."

So Morris went to St. Louis Refrigeration Service, a nearby refrigeration contractor, and asked for a survey to provide air conditioning closely matched to the needs of the building.

Specifies 80° Temperature In Conditioned Space

The coin machine operator specified that the air conditioning system must provide an 80° temperature throughout the shop at the rear of the building, as well as some seven other rooms, including executive offices, bookkeeping departments, and showroom, in the front of the building.

It was found that, using existing ductwork plus installation of a traveler duct directly above the repair bench, the shop could be done with a single 7½-ton packaged air conditioning unit.

This was installed at the right front corner of the shop, with a single 28 by 10-in. duct feeding into the building's ductwork system, which begins at the opposite side of the room above a gas furnace.

Traveler Duct Outlets Supply Each of 5 Men

Along the 25-ft. workbench, a traveler duct was installed, with five outlets directly above five mechanics working along the bench.

The outlet grilles are so arranged that a flow of air swirls down over each mechanic. Thus, even though the temperature is torrid outside, the all-important repair bench is always pleasantly cool.

"The system has worked out so well," Morris indicated, "that we have not lost a single day's work from any of the mechanics. In fact, most of them tell us that the shop is so cool and comfortable that they would rather be on the job than relaxing at home."

Other advantages are far greater work production on the part of the repair crew, less absenteeism on the part of all personnel, and a comfortable meeting place for collectors, route supervisors, and other members of the organization, according to Morris.

"One unexpected benefit was

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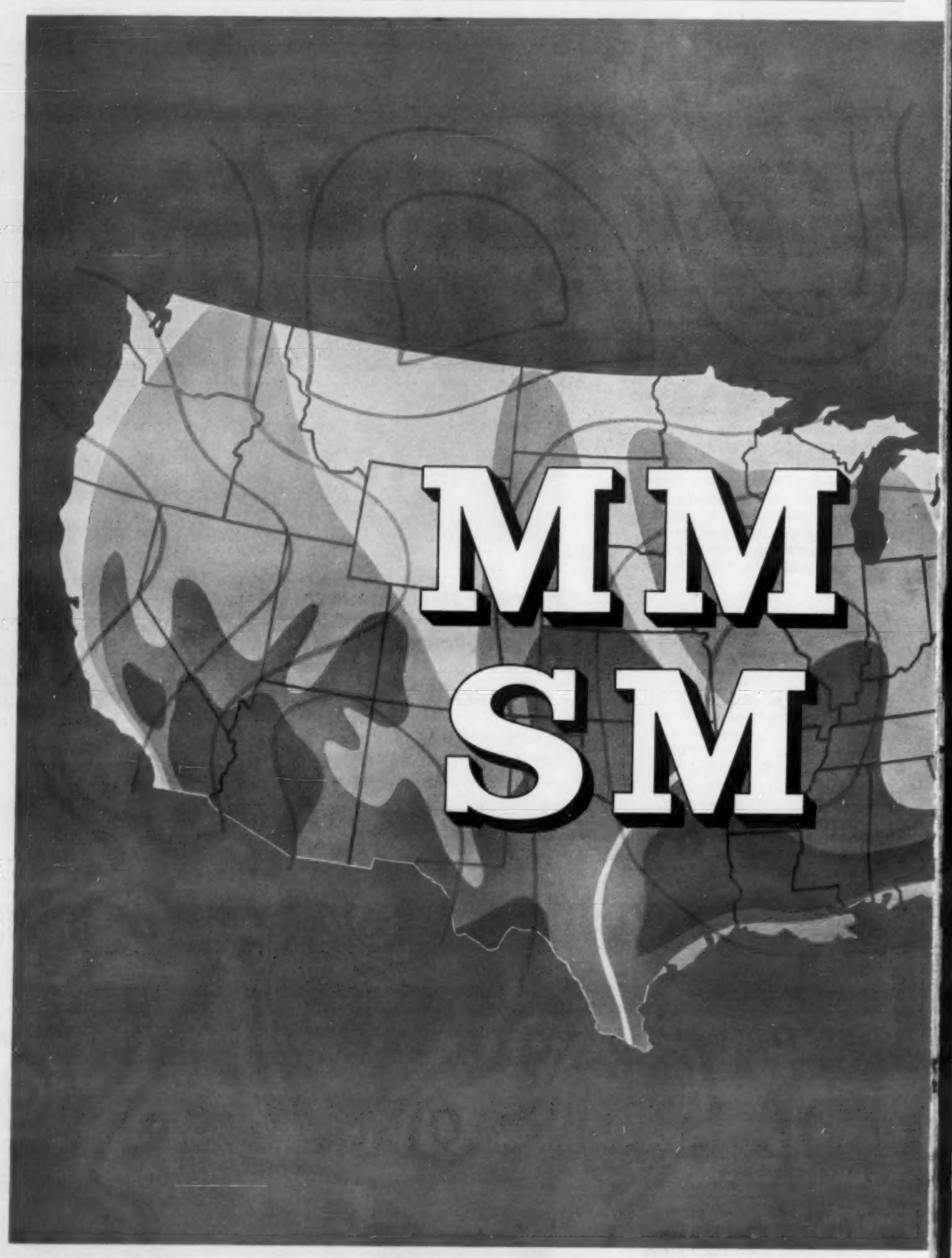
TURNING ON 7½-ton packaged air conditioning unit located at the rear of his shop is Walter Morris. Above can be seen ductwork.



PARTS ORDERS for

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- AIR CONDITIONERS
- REFRIGERATORS • FREEZERS and
- BEVERAGE COOLERS

Including Alsco; Ambassador; Armaid; Artkraft; Cooleraire; Majestic; Philharmonic; Supremacy; U. S. Capitolaire.

Should now be sent to:

UNIVERSAL DIVISION
THE HORTON COMPANY
915 Liberty Ave., Pittsburgh 22, Pa.

For more information about products advertised on this page use Information Center, page 26.

Coin Machine Shop--

(Concluded from preceding page)

a far better appearance of pin games, phonographs, and vendors after being repaired," he said.

"While we have a separate, enclosed paint shop, we found that in the past, dust settling on enamel and lacquer would dull the finish and result in a less eye-appealing job.

Eliminate Dust, Lint Airborne Matter

"With controlled temperature and recirculation of the cooled air in the building through filters, we have completely done away with dust, lint, or other airborne foreign matter."

Still another advantage is the fact that electrical shorts—a prime problem in the maintenance of any kind of coin-operated equipment—are far easier to trace in the air conditioned shop.

"Humidity sometimes got so high in the past that high voltages would short across short distances simply because of the humidity," Morris pointed out. "Now, if any short appears, it is of a mechanical variety and is easier to repair."

The firm is showing a much better summer profit.

TRAVELER DUCT with five individual outlets to air condition repair area space for five mechanics in Morris' shop.

Airline To Condition Entire Fleet

Overhead Ducts To Diffuse Conditioned Air Constantly Throughout Each Plane

SYRACUSE, N. Y.—A contract to air condition Capital Airlines' entire new Viscount fleet — the only domestically-owned jet-prop commercial aircraft—was jointly announced recently by the aircraft company and Carrier Corp. located here.

Capacity of the air conditioning system is equivalent to that required for two average-size homes. It is designed to occupy minimum space and weighs considerably less than similar equipment in conventional aircraft, Carrier said.

It will maintain comfortable temperature and humidity at all times—when the plane is parked on the ramp, taxiing, and in flight.

The Viscount, powered by four 1,500-hp. turbo-prop engines, was introduced by Capital in the United States the middle of last year. It has a cruising speed of 335 m.p.h.

Space requirements aboard the 48-passenger aircraft required careful design and distribution of cooling and conditioning components, according to E. P. Palmatier, Carrier's product manager for transportation equipment.

A small Carrier compressor is placed beneath the forward cabin floor, condenser coils fit into the wings, and the evaporator coil is located rear of the galley.

Cool, dehumidified air is quietly diffused throughout the pressurized cabin and pilots' cockpit from two overhead ducts furred into ceiling fabric. Smoke and all traces of cooking odors after meals have been served are eliminated.

Air conditioning is being installed in the airplanes as they arrive in this country. More than half of the 75 ordered from Vickers-Armstrongs, Ltd., in England are currently in operation. The completely air conditioned fleet is expected to be in service over most of Capital's 6,200-mile system early in next year.

The order from Capital Airlines is the second major aircraft air conditioning contract announced recently by Carrier.

Year-Round Conditioning Installed In 19-Store Eastern Shopping Center

HARTFORD, Conn.—A local air conditioning and heating contractor recently received the contract to install a major portion of this work at a huge 19-store shopping center being erected here.

Jack Lipman Co., organized five years ago, installed heating and air conditioning systems at Green Manor Estates' Manchester Shopping Parkade for such stores as McLellans, W. T. Grant, Liggetts, Beverly's, Inc., Youth Centre, Clearweave, National Shoe, as well as 32,000 sq. ft. of office area.

Air conditioning equipment ranges from 7½-ton self-contained units to a 120-ton central chilled water system. Heating equipment included ranges from small 150,000 B.t.u. gas-fired unit heaters to a 6 million B.t.u. oil-fired central hot water heating plant.

for the **2**

biggest sales-building ideas in residential and commercial air conditioning for 1957

Be sure and call your local Westinghouse Air Conditioning Distributor

NOV. 18*

Westinghouse Air Conditioning Distributors to get the big news at Hot Springs, Virginia!

*Your local distributor will be at the exciting preview of the 1957 Air Conditioning Line during the week of November 11th to 16th. When he returns home on the 18th he'll have the BIG NEWS for you—no matter where you sell. There will be many new sensational air conditioning units, custom-tailored to the individual needs of your customers. Priced to sell in volume with full profit! For the name of your nearest Westinghouse Distributor, write: Westinghouse Air Conditioning, P.O. Box 510, Staunton, Va.—or phone Staunton 6-0711.

J-80629

WATCH WESTINGHOUSE!

*WHERE **BIG** THINGS ARE HAPPENING FOR **YOU!***

WESTINGHOUSE AIR CONDITIONING DIVISION • STAUNTON, VIRGINIA

MANUFACTURERS REPRESENTATIVES

for well-known line of compressors, condensing units, water chillers and cooling towers 5 to 60 tons. Knowledge of air conditioning necessary—a number of important territories are now available. No objection to heating or other compatible lines. Write fully. BOX A5669, Air Conditioning & Refrigeration News.

G-E Time Switch Features Multi-Tripper Dial

———KEY NO. F-1110———

SCHENECTADY, N. Y.—A new general purpose time switch with a multi-tripper dial for extreme flexibility of time setting has been announced by General Electric's Instrument Dept.

The new TSA-555, similar in design and operation to the recently announced TSA-40, is distinguished by the multi-tripper dial feature and the availability of intermittent contacts.

The exceptional flexibility of the TSA-555, said department engineers, permits use wherever many varied on-off schedules are required during a 24-hour period. Among possible applications are heating, air conditioning, refrigeration, and operation of automatic machines.

Trippers are permanently fixed in the timer dial. Easily flipped on and off, they cannot be accidentally dislodged. But the pressure of a screw driver blade at the right stress point permits simple removal and relocation.

Slots are placed at each ¼-hour point on the dial to permit maximum flexibility of timing schedules. Minimum on time can be as short as 15 minutes with a minimum on-off cycle of 45 minutes.

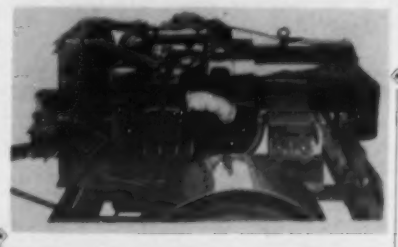
When the time switch is used with a contactor or normally open interlock, the optional intermittent contacts provide undervoltage protection and automatic sequence restarting in the event of power failure.

Voltage for the new timing device is 120, 240, 480, and frequency is 60, 50, or 25 cycles. Power source is a 4-watt Telechron motor with a greased rotor that assures positive operation from -50° F. to 150° F.

The TSA-555 is supplied as a mechanism alone or with a windowless, weatherproof case, making it suitable for virtually all outdoor applications.

An omitting device can be furnished with the new switch. Operations on any day of the week can be omitted repeatedly. The device may be added to the TSA-555 even in the field, said the engineers.

A descriptive bulletin, designated GEC-1406, is available on the product.



Engine Powers Railway Car Refrigeration

———KEY NO. F-1111———

KANSAS CITY, Mo.—Now being used on mechanically refrigerated railway "reefers" is the Witte series 100 engine, made by Witte Engine Works, Oil Well Supply Div., United States Steel Corp., it was reported here recently.

A low profile 25½ in. high is a feature of this engine with its two horizontally-opposed cylinders, it was pointed out. Support pads are spaced far apart for secure mounting and stability. They are located only 6⅞ in. below the crankshaft centerline and close to the center of the engine mass, so that the engine weight is concentrated near the mounting points. This assures positive engine anchorage in equipment, it was added.

At 1,800 r.p.m., the engine will produce 18 hp. during continuous 24-hour-a-day operation and will provide 24 hp. maximum for intermittent service, the company said. The engine runs under full load without hold-down means. Allowable speed range of 600 to 2,400 r.p.m. provides flexibility in applying the unit to all types of power-driven equipment, it was noted.

Water cooled, the engine runs on diesel fuel. It is a four-cycle unit with a 4-in. bore and a 4-in. stroke with displacement of 100.5 cu. in. Bare dimensions are 28⅝ in. long, 39 in. wide, and 25½ in. high.

Weight is 706 lbs.

'Push On-Pull Off' Plug, Connector Introduced

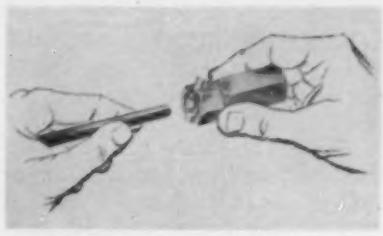
———KEY NO. F-1112———

CHICAGO—A new self-sealing, automatic locking "Push On-Pull Off" tube plug and connector was recently introduced by Mechanical Products Corp. here.

The plug and connector provides a fast, safe, and efficient method of attaching pressure, vacuum, and charging lines to straight end tubing, the company said.

The new unit was developed primarily for the processing of air conditioning and refrigerator circuits in line production. It provides instantaneous connection for factory or field work. No tools, threading, soldering, or brazing are required. To use as a tube plug, insert ¼-in. pipe plug to seal end of connector.

To attach, the connector is



pushed over the end of the tubing into the "stop" position. This operation automatically locks the tubing into place in a leak-proof seal, ready for vacuum exhausting or pressure filling. The connector is designed to operate at any pressure to 1,000 p.s.i. and any vacuum to 25 microns.

Pushing a lever permits the connector to be pulled off the tube end.

NOW

OIL SEPARATION AND SYSTEM SILENCING ENGINEERED INTO A SINGLE UNIT

the HEAT-X 'OSM' OIL SEPARATOR-MUFFLER

heat-x

Silencing is more than just *incidental* and *partial* with Heat-X 'OSM' Oil Separator-Mufflers. These units were *specifically engineered* to completely silence all system noises and absorb all pulsations from the compressor . . . *in addition to* separating entrained oil.

And these "all-in-one" units make float troubles a thing of the past. 'OSM' Oil Separator-Mufflers have *no floats* to hang open or stick closed. Instead, units incorporate a positive action Velocity Pressure Mechanism, *exclusive with Heat-X*, which opens only when compressor is running . . . closes of its own weight when compressor stops.

Ratings based on *tonnage*, not *horsepower*, permit close matching of unit to requirements . . . eliminate need to buy more than required capacity.

Ruggedly constructed to A.S.M.E. specifications. Available in capacities from 1 to 75 Tons F-12 and 1 to 100 Tons F-22.

REQUEST FREE DESCRIPTIVE CATALOG.

HEAT-X, Inc.

BREWSTER • NEW YORK

Filtrine "Taste Master" PURIFIERS for WATER - COOLERS ICE MAKERS

Stop ... rust, dirt chlorine taste

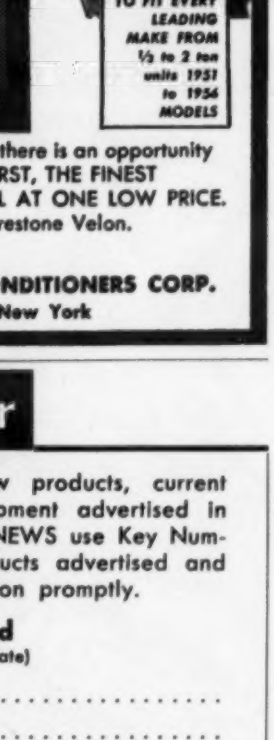
Stop ... service breakdowns due to rust & sludge

Insures service satisfaction for all coolers, ice-makers! Clear, taste-free water . . . crystal ice . . . every day . . . in all locations.

FILTRINE MFG COMPANY

218 W. PROSPECT ST. • WALDWICK, N. J.

STAND-OUT OPPORTUNITY to profit with ONE PRICED INTERNATIONAL AIR CONDITIONER COVERS made of Firestone Velon



32 STYLES TO FIT EVERY LEADING MAKE FROM ½ to 2 ton units 1951 to 1956 MODELS

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Products Advertised
(list name, page, and issue date)

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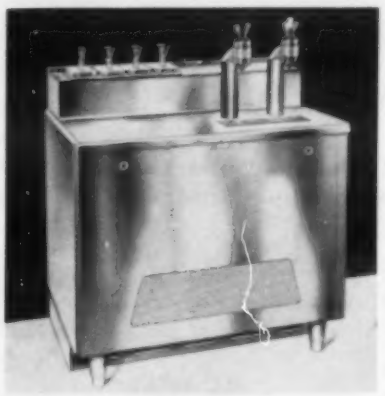


Leitner Adds 2 Units to Lines

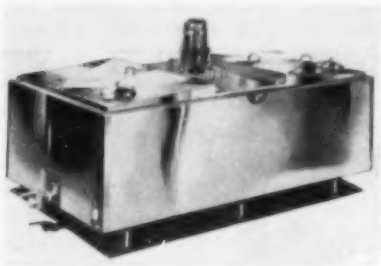
——KEY NO. F-1113——

FRANKLIN PARK, Ill.—Leitner Equipment Co. recently announced completion of its line of soda fountains and drink dispensers by addition of two new items.

"Soda-Mite" drink dispenser is completely refrigerated and plugs in ready to operate, the firm said. This is a high production unit with maximum flexibility for carbonated and non-carbonated drinks. It is equipped with coarse and jet stream soda water with "Mix-O-Matic" mixing arm as standard equipment, it was added.

"Soda-Chief," a complete line with a variety of soda fountains, bobtails, sinks, etc., has Mix-O-Matic arm, is available for front or back bar use.

Coming in 26-in. or 30-in. deep units, complete food service operation can be furnished with them.



Kupfer Introduces Bulk Milk Cooler 32-In. High

——KEY NO. F-1114——

MADISON, Wis.—Kupfer Products Co. here recently announced a new bulk milk cooler a feature of which is its 32-in. height.

No steps or platforms are needed to clean the unit or fill it, the company said. In addition, the remote electrical control panel for wall mounting places time, on-off, automatic, and agitator switches out of reach of youngsters.

Other special features include rugged structural frame, adjustable legs, spun-glass insulation, and inner tank which is designed for complete drainage, easier cleaning, and full milk agitation, the firm pointed out.

Available in 160 or 210-gal. sizes, tanks are either self-contained or have remote condensing units. Larger sizes, up to 500 gal., are available with remote condensing units only.

Offer Combination of LP Torch Tools

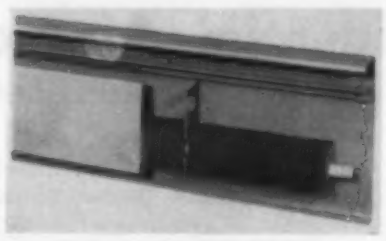
——KEY NO. F-1115——

SYCAMORE, Ill.—A new combination of LP torch tools in a new style metal chest was recently announced by Turner Brass Works here.

Designed as four torch tools in one, compactly contained in a metal carrying and storing case, Turner has branded the new combination the "Multi-Torch Chest."

It contains enough burner tips to meet every torch application, the company said. The chest contains one regular Turner torch, one heavy-duty burner, one chisel soldering tip, one flame spreader, and the case.

Designed to give the dealer the inventory advantage of concentrating heavily on a single item the unit retails at $9.99.



Baseboard Radiation Has Single Unit Design

——KEY NO. F-1116——

BUFFALO—A new line of Rittling 580 baseboard radiation, featuring new low cost per B.t.u. and exclusive single unit design for all-purpose installation including free standing, semi or fully recessed, is announced by The Rittling Corp. here.

The enclosure is designed to secure maximum stacking effect and efficient air handling for maximum heat transfer. Specially designed adjustable deflector-damper is standard equipment.

The heating element uses ⅞ in. o.d. copper tube and rigid .017 in. steel fins. Fins are imbedded in tube to provide tight metal-to-metal bond and high heat transfer efficiency. Fins are 2 in. by 3 in. and spaced 48 per. ft. One end of tube is expanded to simplify sweating adjacent sections without use of couplings.

Die-formed brackets support the heating element and front panel, and reinforce back and top. Brackets are notched to support a concealed ½ in. by-pass or return line when it is desired to bring inlet and outlet connections out at one end.

Brackets are spot welded to back of enclosure and spaced at 1½ ft., 2 ft., 2 ft., 1½ ft., and 1 ft. so that one cut will give a wide range of element and over-all lengths from the standard 8-ft. lengths.

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• FOR BEAUTY . . . Beauty pays off in sales appeal. The attractive CHIP-FREEZE space saving cabinet is available in a wide choice of decorator colors to harmonize with any interior. Easy to clean hi-bake enamel finish retains its luster for the life of the machine.

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What Happened To Residential Air Conditioning During 1956?

Install 330 Central Home Systems In Knoxville Despite Relative Coolness

By C. Dale Mericle

What's actually happening in the residential air conditioning field?

Continuing in its efforts to dig up the facts in specific areas where residential air conditioning is being installed in numbers, AIR CONDITIONING & REFRIGERATION NEWS presents here its seventh report on market developments—the 1956 report on Knoxville.

KNOXVILLE, Tenn.—A total of 330 central type cooling systems has been installed in 320 Knoxville area homes this year by 37 contractors, it is revealed in an on-the-spot survey made by AIR CONDITIONING & REFRIGERATION NEWS.

Although the 1956 installations represent a gain of indeterminate numbers over the previous year, most Knoxville contractors believe they've barely scratched the surface yet. They see the big boom in residential air conditioning still a year or two away.

The relatively cool summer of the past several months has been a factor in keeping residential sales somewhat below expectations, contractors say, but they also point to electric heat as a major road-block in the path of increased home cooling.

Low rates on power (this is TVA territory) combined with intensive promotion of electric heating by the municipal Knoxville Utility Board have resulted in 90 to 95% of the cheaper and moderate-priced homes built here in past several years going in without ductwork of any sort, according to some of the contractors.

Electrically Heated Homes Hinder Contractor

Instead of having a forced warm air system, most of the newer homes, contractors say, are heated electrically by resistance wiring imbedded in the ceiling. Not only does such wiring eliminate the need for ductwork, but it handicaps the contractor who would install ducts for central cooling.

The contractor obviously cannot cut holes through a wire-filled ceiling for ducts without destroying electrical circuits, and furred down ductwork would interfere with effective operation of the ceiling panels during the heating season.

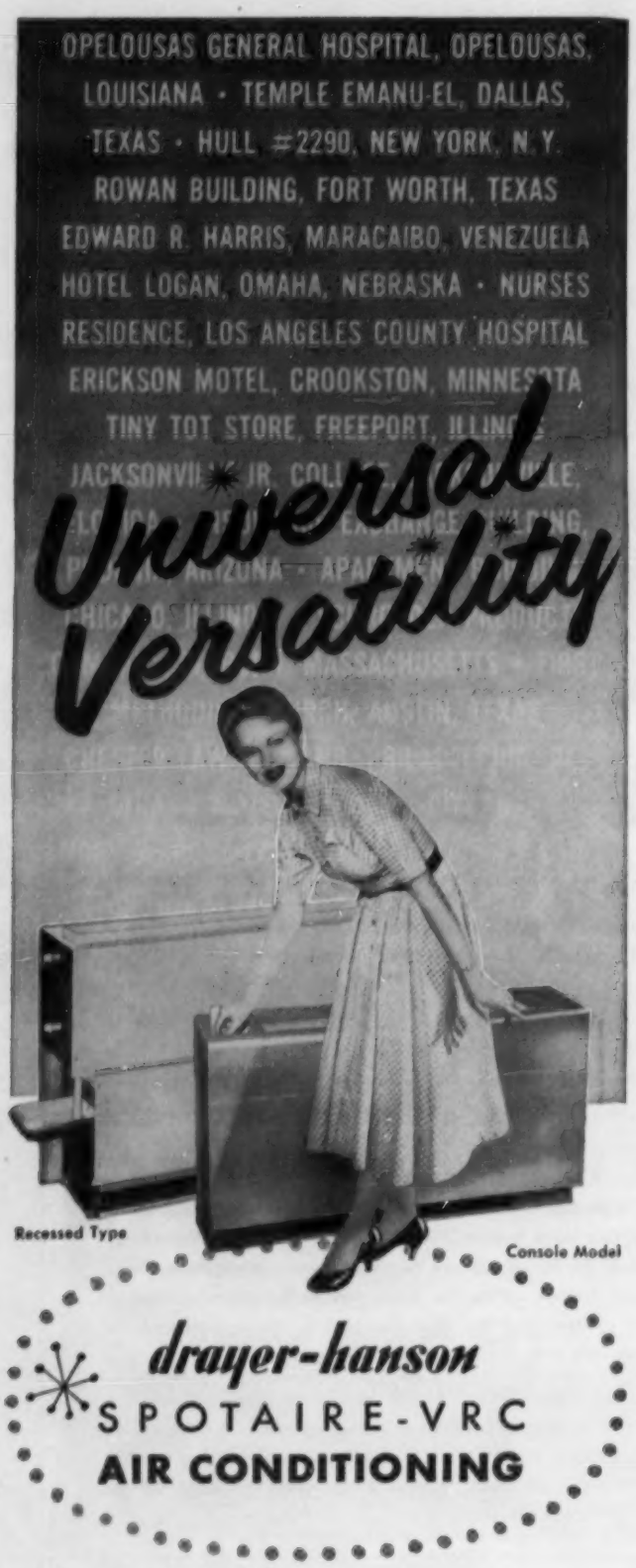
With such electric heating installations costing between $160 and $300 complete, the market for forced warm air systems has been sharply limited in Knoxville, according to contractors.

(Concluded on next page)

Residential Air Conditioning In Knoxville In 1956

Contractor	1956 Total Units	–New Owner	Homes– Builder	Existing Homes	Year-Round Systems	Cooling Only	—Air Cooled— Remote	S.C.	Water Cooled	With Cooling Tower	Sheet Metal Shop
1	41	13	3	25	25	16	16	25	....	....	Yes
2	31	26	....	5	27	4	2	26	3	2	Yes
3	20	10	....	10	10	10	19	....	1	1	Yes
4	20	4	2	14	4	16	....	20	....	....	No
5	18	14	....	4	18	....	17	....	1	1	Yes
6	14	12	....	2	14	....	14	....	....	....	No
7	12	6	....	6	....	12	....	12	....	....	Yes
8	10	....	....	10	....	10	5	5	....	....	Yes
9	8	1	....	7	2	6	8	....	....	....	Yes
10	6	6	....	....	....	6	6	....	....	....	Yes
11	4	1	....	3	1	3	3	....	1	....	Yes
12	4	4	....	....	4	....	4	....	....	....	Yes
13	4	2	....	2	2	2	3	....	1	1	No
14	3	3	....	....	3	....	3	....	....	....	Yes
15	3	3	....	....	3	....	3	....	....	....	Yes
16	3	....	....	3	1	2	2	....	1	1	No
17	3	3	....	....	3	....	3	....	....	....	Yes
18	2	2	....	....	2	....	2	....	....	....	Yes
19	2	2	....	....	2	....	....	2	....	....	Yes
20	2	1	....	1	2	....	2	....	....	....	Yes
21	2	2	....	....	2	....	1	....	1	1	Yes
22	1	1	....	....	1	....	....	1	....	....	Yes
23	1	....	1	....	1	....	1	....	....	....	Yes
Distributor											
A*	111	62	33	16	....	111	....	111	....	....	....
B	3	....	....	3	3	....	3	....	....	....	....
C	2	....	....	2	....	2	2	....	....	....	....
Total	330	178	39	113	130	200	119	202	9	7	....

*Distributor A also supplied 16 units to Contractor No. 4, which are included in the latter's listing.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For more information about products advertised on this page use Information Center, page 26.

Knoxville Residential Survey--

(Concluded from preceding page)

Therefore, there hasn't been much of a market for the "add-on" type or "cooling only" installation of air conditioning using existing ductwork.

Contractors are becoming increasingly hopeful, however. Quite a number of homes have been built this year with both central cooling and ceiling panel electric heating. The latter is installed so as not to interfere with ductwork, and vice-versa.

Knoxville's favorable power rates are also being taken advantage of by air conditioning contractors through installation of resistance heating elements in the ductwork of conventional air conditioning systems.

33 Heat Pumps Installed In '56

Heat pumps, too, are becoming a factor in the city. A total of 33 such units, representing 10% of the total residential installations, were installed in Knoxville homes this year.

Despite the considerable difference in first cost between electric panel heating and conventional fuel systems, contractors hope to see more of the latter installed in Knoxville in the near future. According to these air conditioning and heating contractors, electric panel heating (which is installed almost exclusively by electrical contractors) costs more to operate than oil or gas and does not give ideal results.

Ceiling panel installations, these contractors contend, do not provide satisfactory heating at low outdoor temperatures. Also, such radiant heating from ceiling panels often permits heavy condensation on windows in cold weather, resulting in rotted sashes and frames, or so say these contractors.

So much for the background. What actually did happen in Knoxville this year as far as residential air conditioning is concerned is summarized in the accompanying table.

The table shows the installations by contractor and distributor (sales to contractors), how the installations break down by new homes (owner or speculative builder), existing homes, year-round or cooling only, air cooled (remote or self-contained units), water-cooled units, cooling towers, and whether the contractors listed have their own sheet metal shop.

Twenty-tree contractors are listed individually. There were 14 other contractors active in the residential field in Knoxville this year; nine were supplied by Distributor A, three by Distributor B, two by Distributor C.

A total of 217 units was installed in new homes, the table shows, compared with 113 in existing homes. Of the new home installations, 178 went in at the choice of the owner of the home, and only 39 were installed by builders on a speculative basis.

113 Year-Round Units Installed During Year

"Cooling only" installations dominated the Knoxville picture with 200 such units being put in. There were, however, 113 installations of year-round systems. Most of these were combination units providing heating and cooling in the same or separate cabinet. The 33 heat pumps are included in the "year-round" category. Also listed as "year-round" jobs are those systems having electric resistance heating in the duct system to meet all or most of the house heating requirements.

Virtually all the Knoxville systems are air cooled, 321 out of the 330 total. Of these air-cooled systems, 119 employ the "split" design providing for remote location of the condensing unit. The remaining 202 air-cooled jobs are self-contained.

Only nine water-cooled jobs were installed in Knoxville homes this year, and seven of these also had a cooling tower.

The table also shows that 19 of the 23 contractors listed individually operate their own sheet metal shops.

23 Makes Comprise 330 Installations

Knoxville's 330 installations involve 23 different makes, the NEWS survey revealed. Thirteen of these represent old-line refrigeration and air conditioning manufacturers plus some newer firms who've entered the residential air conditioning field via the window unit route. Ten manufacturers are furnace companies. (Included with the latter are furnace manufacturers which have in recent years been merged with air conditioning companies but still operate on a largely independent basis).

The 13 air conditioning and refrigeration manufacturers got the bulk of the business between them: 243 units or 74% of the 330 total. The 10 furnace companies divided 87 units or 26% of the total.

Two makes of heat pumps are included in the 13 brands produced by air conditioning and refrigeration manufacturers.

Although the old-line air conditioning manufacturers dominated the Knoxville picture, the same cannot be said for the local air conditioning and refrigeration contractors. While the latter are represented in the second and third places of the tabulation, only seven contractors altogether fall into this category, and they had a combined total of 67 installations. Thirty of the contractors are in the heating, plumbing, and sheet metal category. They installed 263 units.

Perfection Names Advertising Agency

CLEVELAND—Carl W. Millsom, vice president of sales and advertising of Perfection Industries, Cleveland Div. of Hupp Corp., has announced the appointment of The Griswold-Eshleman Co. as its advertising agency. The Cleveland agency succeeds the McCann-Erickson agency.

"Selection of the agency is part of the company's new aggressive marketing program for Perfection air conditioning and heating equipment."

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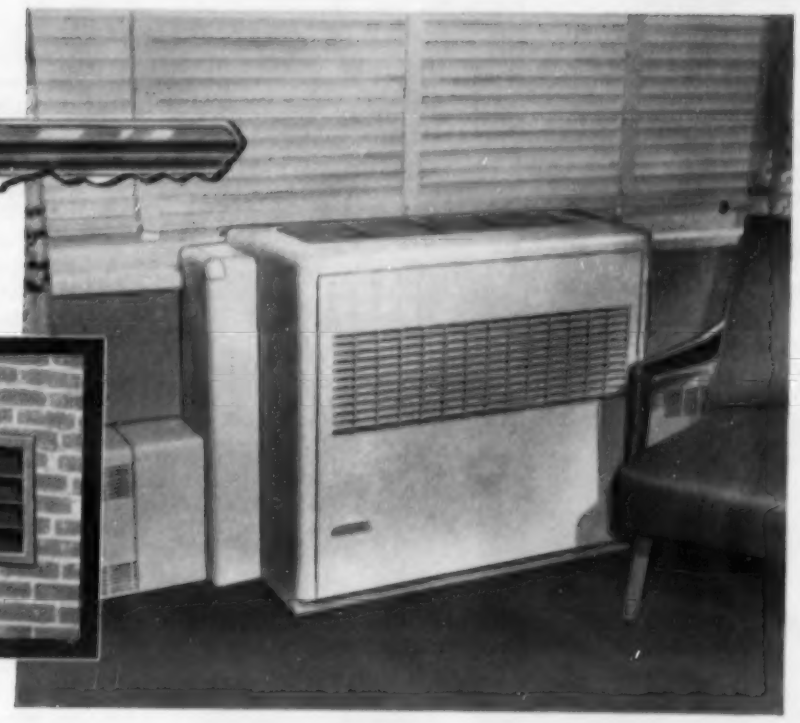

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Refrigerated Shelving Seen as Sales Booster; Performs Well Mechanically

SCALE MODEL LAYOUT of store he is planning helps Lee Hayes, president of Detroiter Refrigerator Mfg. Co. get layout ideas across to customers.

HAYES WORKS on scale model supermarket that later became the Food Fair store described in this article.

EIGHTY FEET of refrigerated shelving sell dairy and delicatessen items in this Food Fair market in Livonia, Mich.

By John O. Sweet and George M. Hanning

DETROIT—How has refrigerated shelving, a comparatively new development in food store merchandising, worked out in practice?

Very well, testifies Lee Hayes, president of Detroiter Refrigerator Mfg. Co., local Hussmann distributor. Hayes said that he has installed some 1,200 ft. of refrigerated shelving in Detroit area food stores in less than a year.

"It does a good job of merchandising food and it performs well mechanically, holding temperatures nicely," he reported. "Market operators tell me that it has definitely improved sales."

Hayes said he has installed refrigerated shelving in large chain supermarkets and in small independent markets.

"I think it can stand more exploitation in the small store," he asserted. "The small store can use it for all normal temperature applications except fresh meats. It gives the merchant lots of display space in a small floor area."

As a case in point he cited the D & C Market on Detroit's far west side. Owners Lester Wood and Larry Hodges are using 20 ft. of refrigerated shelving exclusively for bottled beverage display in addition to 30 ft. for the more normal use of displaying delicatessen and dairy items.

Hodges was enthusiastic about using shelving for beverage display. "It's the ideal beverage cooler," he declared. "It keeps the temperature just right and really sells 'em. It is so much better than the old beverage case with sliding doors."

Eighty feet of shelving for dairy and delicatessen display alone was installed by Hayes in a new "Lucky-Food Fair" market in nearby Livonia.

This market is unusual, Hayes said, not only for the refrigerated shelving but because of the different layout that the shape of the building permitted.

This is a large building, 120 by 160 ft. that not only offered great width but also unusually great depth. So storage areas were all put to the rear of the building, leaving plenty of room for extra wide aisles.

Layout Leads People To Perishables Area

The layout of the store is different in that customers are led first into a single area displaying all perishables—meats, produce, frozen foods, and dairy. These are lined up in one long, wide row. When the customer turns the end of this row, she enters the dry grocery area. Here the aisles are at right angles to the perishables and completely blocked off.

"The beauty of this layout," Hayes explained, "is that it hits the customer's pocket book with the most profitable items the store handles first and all at one time.

"I was a little hesitant about it, however, because I was afraid that segregating the dry grocery department might hurt that business. I pointed out that possibility to the store management.

"But they went ahead with the idea. Events have proved that it didn't hurt the dry groceries at all. Management is very happy with it. They would now like to do all their stores that way."

Hayes reported that this particular store contains 88 ft. of fresh meat case, 24 ft. of frozen meats, 96 ft. of frozen foods, 20 ft. of ice cream, and 80 ft. of delicatessen and dairy display.

There are also a 19 by 21-ft. produce cooler, 19 by 7-ft. frozen foods cooler, 8 by 16-ft. dairy cooler, and 16 by 17-ft. fresh meat cooler. Sixteen condensing units totaling 55 hp. provide the refrigeration. They are water cooled. In addition, the store is equipped with a 50-ton air conditioning system.

In selling this layout idea to management, Hayes used a sales

(Concluded on next page)

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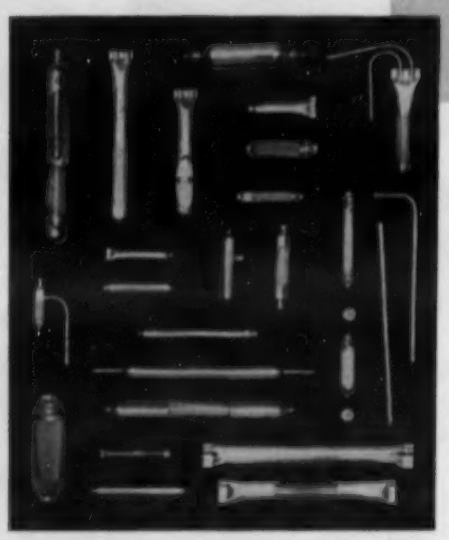

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and—coming soon—
5, 7½ and 10-ton!
MANUFACTURERS' AGENTS WANTED
Protected territories
Inquiries Invited
Write for free booklet "COLD or HOT" Dept. MA 189
VIC MANUFACTURING COMPANY
(Industrial Division)
1313 Hawthorne Avenue • Minneapolis 3, Minn.

For more information about products advertised on this page use Information Center, page 26.

BOTTLED BEVERAGES displayed on refrigerated shelving in D & C market in Detroit move faster than from conventional bottle coolers, says George Urban, who keeps shelves stocked and handles bottle returns.

Refrigerated Shelving Ups Sales--

(Concluded from preceding page)

aid he devised himself that has proved very effective as a sales clincher.

This is a scale model of the store that is spread out on a table in his sales room, complete to the final detail—even to the electrically lighted parking lot with model cars in it.

Scale Model Gives Customer Idea of Store's Layout

"The scale model is a lot of work," Hayes admits, "but it gives the customer a more visual idea of what his new store is going to look like. This is important to many laymen who cannot picture what the blueprints and drawings alone portray."

There is a scale model of every case and fixture in the store, with colored pictures of merchandise on the shelves or in the display cases.

"These are actual pictures of cases filled with merchandise, reduced to fit the model size.

"The pictures alone cost me $1,000 and the whole set-up a total of $1,500," he said.

In making single case sales or partial remodelings, it is easy for the salesman to slip the needed models in his pocket and take them out to the customer to help him visualize his store.

Commenting on supermarket trends today, Hayes expressed reservations on trends to automatic merchandising and also to mammoth markets.

Pushbutton Selling Seen To Stymie Impulse-Buying

"Pushbutton selling," he contends, "offers no encouragement to impulse buying. Impulse buying is governed greatly by the eye appeal. You don't get that in a vending machine.

"Also, the housewife still likes to examine and feel the product before she buys it."

The king-size markets, he believes, are feasible for the single store operator or the owner of one or two stores. But they are not practical for chain stores.

The chains in this area are finding that they are doing the best job with a store of about 15,000 sq. ft. of selling area.

"While the supermarket industry has grown in the past 20 years largely on showmanship, it has now developed a merchandising method that is accepted.

"So showmanship is not as important as it once was. The public is now very price conscious. As a result, the chains are putting the emphasis on a building that is functional in layout and can be operated at the lowest possible labor cost.

"Supermarkets today depend less on showmanship for their business and more on price competition."

FURNAS ELECTRIC CONTROLS do the best job for AIR CONDITIONING and REFRIGERATION

SAVE WITH "in-Between" SIZES

Instead of just 5 Magnetic Starters in the 1 to 100 hp range, Furnas Electric offers you 9 sizes—the 5 standard sizes plus 4 "in-between" sizes. The many "in-between" sizes in the Furnas Electric line allow you to choose the control that is best suited for your particular job—at a saving to you in cost, space and capacity.

Write today for Bulletin 5411—1111 McKee Street, Batavia, Illinois

A9

FURNAS

FURNAS ELECTRIC COMPANY
BATAVIA, ILLINOIS
SALES REPRESENTATIVES IN ALL PRINCIPAL CITIES

Here Now! NEW CHEVROLET TASK·FORCE 57 TRUCKS!

FIRST with the MOST modern features

They're out to save you hours and dollars on any hauling job . . . and they've got big new power plus the modern features that make it a sure thing! They put you way ahead with time- and work-saving advantages you won't find in any other truck!

Again, for 1957, Chevrolet light-duty trucks bring you the industry's most advanced features—new developments that have already been proved in a history-making preannouncement test run! (See how they conquered the Alcan Highway, below.)

For '57 there's bold new styling to match Chevy's remarkable stamina and dependability.

There's fleet-action power in Chevy's outstanding engine line-up for '57—with a modern version of the famous 140-h.p. Thriftmaster 6 standard in Series 3000 trucks and the efficient pound-saving short-stroke Trademaster V8 available as an extra-cost option.

Other way-ahead '57 features include advanced Ball-Gear steering, high-output 12-volt electrical system, modern tubeless tires and great optional (extra cost) features such as no-shift Hydra-Matic transmission!

Be sure to check the new cab features, too . . . the handsome new upholstery, the new steering wheel, the new exterior colors. Your Chevy dealer has all the details, so see him soon! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

Alcan Highway Test Run Proves Chevrolet Ruggedness!

AAA

In an AAA-certified endurance run, 6 light, medium and heavy-duty trucks carrying typical cargoes roared up the 1,520-mile Alcan Highway (normally a 72-hour run) in less than 45 hours! In dramatic fashion, new Chevy trucks conquered one of the world's most challenging roads to display the great performance qualities they'll bring to *your* roads!

For more information about products advertised on this page use Information Center, page 26.

Planned Maintenance for Cooling Towers & Condensers

This is the first in a series of articles by Mr. Lindsley covering some fundamentals in the installation, service, and maintenance of refrigeration and air conditioning systems.

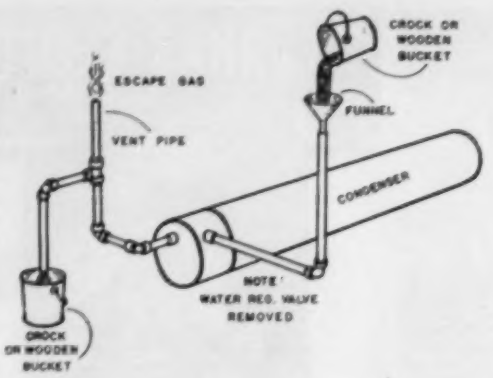
Much of the material is concerned with proper practices in such important activities as maintenance of water-saving devices, start up and check out of systems, correct refrigerant piping practices, and "know-how" in servicing residential air conditioning systems.

The author of the articles has had many years of experience in directing refrigeration service operations, and in instruction on service problems.

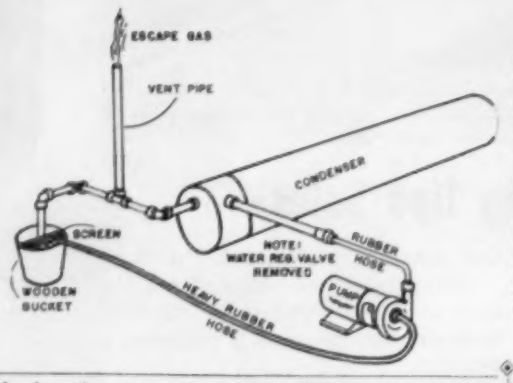
By E. D. Lindsley, Manager of Technical Section, Air Conditioning & Refrigeration Service Div., Worthington Corp.

For a number of reasons a great deal of attention has been paid to the need for water saving devices, such as cooling towers and evaporating condensers. In the past very little attention was paid to the proper maintenance measures to be applied to the evaporative condenser and cooling tower, and also the shell-and-tube type condenser.

In order to maintain efficiency, these units must be kept clean and free of both scale, slime and rust. It is very important to remember that in the condenser that a very thin coating on the tube surface will greatly reduce the heat transfer.



LEFT: Fig. 1—Gravity circulation.



RIGHT: Fig. 2—Forced circulation.

This is very true both in the evaporative condensers and also the shell-and-tube or shell-and-coil type condensers.

While it is possible to visually check the tubes in the evaporative condenser to determine their condition as far as corrosion of either scale or slime, it is not that easy with a shell-and-tube or shell-and-coil condenser.

HEAD PRESSURE AND WATER TEMPERATURE

With these types of condensers, it is necessary to check the head pressure and the water temperatures. When the tubes are dirty, there will be decreased water flow, low temperature difference between the inlet and outlet water, and abnormally high discharge pressure.

It is very important to have proper maintenance in the case of cooling towers and evaporative condensers. It is much easier to prevent the formation of scale, slime, or sludge than it is to remove it from this type of unit.

A number of chemical companies have products which, when added to the sump of the units, do a very good job of the water treating. In the cases where scale or slime has already formed, however, it can be removed by brushing or by the application of an inhibited acid compound.

In most cases the procedure is to add this acid compound to the sump pan of the unit, place the unit in operation long enough for the compound to clean the system, and when the unit is clean, drain and flush either with clean water or with the inhibitor as recommended by the manufacturer.

IF REFRIGERANT REMAINS USE COLD SOLUTION

If the refrigerant is not removed from the unit before cleaning, a cold or lukewarm solution must be used. If the refrigerant is removed, a hot solution of about 180° F. may be used to shorten the cleaning time. This again should be followed as recommended by the manufacturer of the material used for cleaning the unit.

(Continued on next page)

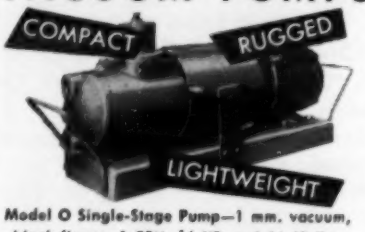
PRODUCT ENGINEER

centrifugal compressor work

Must have experience in installation application and service procedures. Send resume and recent snapshot to Employment Supervisor, **Airtemp** Division, Chrysler Corporation, Box 1037, Dayton, Ohio.

FOR DEHYDRATING AND TESTING . . .

BEACH-RUSS *Portable* VACUUM PUMPS



Model O Single-Stage Pump—1 mm. vacuum, blank flange, 1 CFM, ⅙ HP, weight 48 lbs.

Model A Two-Stage Pump—1/10 mm. vacuum, blank flange, 2.5 CFM, ⅓ HP, weight 80 lbs.

Write for prices and data.

BEACH-RUSS COMPANY
52 CHURCH ST. • NEW YORK 7, N. Y.

"For compressor shutdown defrosting I buy PARAGON 3400 SERIES time switches because they give me . . .
more years of trouble-free service!"
Smart business? You bet! What's more important than cutting service call-backs or reducing food spoilage? Key to the 3400 series continuous, uninterrupted service is its industrial-type, 4-watt motor. This heavy-duty motor — exclusive with Paragon — has a *minimum life expectancy of 5 to 7½ years — many last 12 years or longer!*
Add to this the many patented construction and operation features found in all Paragon time switches. You'll see why the Paragon 3400 series is your BEST BUY for *all types* of commercial refrigeration defrosting and air conditioning applications. Available in 120-V, 60 cycle and 240-V, 60 cycle; 30 Amps. 1 HP types.
Order the new 3400 series
from your Refrigeration Equipment Wholesaler, or write Dept. 1687 for bulletin.
Also write for complete facts on these famous Paragon timers
Commercial Defroster
Dehumidifier Timer
7-Day Calendar Dial Time Switch
Fan Timers
PARAGON ELECTRIC COMPANY
TWO RIVERS, WISCONSIN
WORLD'S FOREMOST MANUFACTURER OF TIME CONTROLS

We're pleased as punch
with our new Fast Action
dacor
DISPOSABLE ACTIVATED CARBON ODOR REMOVER
The DACOR filter story is as interesting to the women folk as it is to the men. That's why DACOR (Disposable Activated Charcoal Odor Remover) is the hottest accessory item to hit the air conditioning and heating markets in ages. Tell the women that DACOR helps keep her home free of tobacco smoke, cooking odors, annoying smog and dust . . . she's bound to be impressed. Tell the men that DACOR cuts heating and cooling costs as much as a third . . . you're sure to score a sale. Whether you make, install or sell air conditioning and forced-air heating systems and supplies, DACOR can help you sell more!
The BARNEBEY-CHENEY Company
Columbus 19, Ohio
Please send me full information on DACOR. 115
My name
Address
Firm
City State
I am: dealer contractor mfg. rep. equipt. mfg.

For more information about products advertised on this page use Information Center, page 26.

Maintenance-

(Continued from preceding page)

There are two ways to handle the cleaning problem when a shell-and-tube or shell-and-coil condenser is used. First, remove the heads and clean the tubes with a wire brush on shell-and-tube condenser, or circulate an inhibited acid product.

Usually, if there is a great amount of scale on the tubes, the method of circulating acid to the tubes is recommended.

In some cases scale may be removed by gravity circulation as shown in Fig. 1, but under most cases better and faster results can be obtained by the forced circulation method as shown in Fig. 2. If a pump is used you must be sure that it is designed for the type of solution which is being used for cleaning the condensers.

In either method it is very important that a vent pipe be provided. When the unit is clean, drain and flush with clear water or with the proper inhibit recommended by the maker.

It is very important when cleaning condensers or towers that the proper product for cleaning and descaling or water treatment problems be used.

In the case of evaporative condensers and cooling towers regular checks should be made for any signs of rust or corrosion. A definite period of inspection and a definite schedule for cleaning and repairing of all evaporative condensers and cooling towers is a must.

When signs of rust or corrosion are noticed, the spot should be carefully cleaned with a wire brush, and the spots treated and painted with some type of rust prohibiter. It is very important to check the inside of the unit for signs of rust and corrosion.

The four main things to always remember in maintaining this type of equipment are, (1) inspect, (2) clean, (3) replace parts that show excessive signs of rust and corrosion, (4) follow the manufacturers recommendations on solutions used to treat the water or clean units.

Belmont Second Chicago Hotel Fully Conditioned

CHICAGO—Second hotel here to become 100% air conditioned is the 700-room Belmont, according to Don Barnet, manager.

Begun a year ago, the $167,000 air conditioning and rewiring program's completion follows that of the Drake, Barnet said. Most other major Chicago hotels have air conditioning programs under way.

Wm. A. Leonard, Former Imperial Official Dies

CHICAGO—William A. Leonard, 92, retired vice president of The Imperial Brass Mfg. Co. died Oct. 21 in a nursing home at Hendersonville, N. C., after an extended illness.

For more than 25 years he was vice president and general sales manager, organizing sales through Imperial distributors. He joined the Imperial organization in 1920, and retired from active work in 1945.

He is survived by two sons, Lowell A. and Willard L. Memorial services were held in the Riverside Presbyterian church, Oct. 28.

Johnson Service Names Chapman In Engineering

MILWAUKEE — William P. Chapman has joined the executive staff of the engineering department of Johnson Service Co. here, manufacturer of automatic temperature controls.

His duties will include major assignments in connection with the company's expanded research and development.

Prior to his appointment with the Johnson organization, Chapman spent six years in sales engineering and four years in research with National Tube Div. of United States Steel Corp., Pittsburgh.

Allied Supply Opens Hamilton Branch

DAYTON—Allied Supply Co., Inc. here announced the opening of a branch in Hamilton.

Earl R. Clark, secretary, said the new unit, along with those in Dayton and Lima, will enable the company to serve 28 western Ohio counties.

Allied Supply is a wholesale distributor of parts for electronic equipment, refrigeration, and air conditioning units.

Mfrs. Representative To Move to Southeast

WHEATON, Ill.—Jay Barton announced recently that he will move his manufacturer's representative and application engineering business to the southeastern section of the country.

The company will handle heating, ventilating, and air conditioning equipment for various manufacturers. Offices will be established in natural marketing centers.

Barton's experience includes six years with trade papers in these fields, an engineering education, sheet metal and heating contracting, manufacturing of automatic heating equipment, and manufacturer's representative and application engineer, the announcement noted. Also, he was one of the original instructors of the Michigan State university short courses.

ENGINEER

with experience in heating and air conditioning who wants to write. Should have some background in written expression. This is an attractive long-range opportunity with top firm in its field. Send resume to

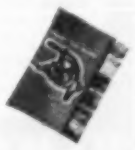
BOX A5667, Air Conditioning & Refrigeration News.

Handy Tube Bender

Smoothly Bends any pipe or Tubing 3/8"-1 1/8" O.D.

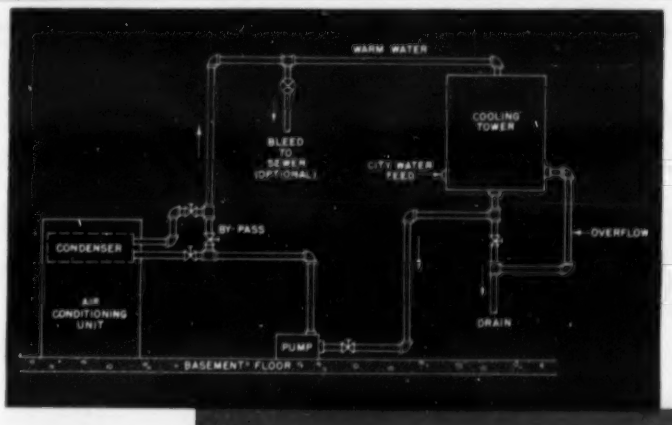
• Just a twist of the wrist assures perfect, even bends — right angle, any angle, U and offset. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house—or write for free folder today.



HOLSCLAW BROS., INC.

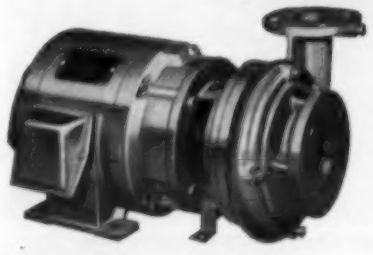
428 N. Willow Road • Evansville, Indiana



QUIETER PUMPS

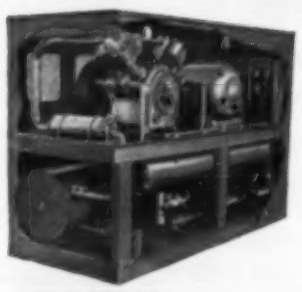
FOR COOLING TOWER APPLICATIONS

B&G 1522 CENTRIFUGAL PUMPS



B&G SERIES 1531-B CENTRIFUGAL PUMPS

Featuring vertical split case design...self-lubricating, leakproof "Remite" mechanical seal ...latest NEMA motors. Superfinished shaft oversized for minimum deflection. Impeller is of sound hydraulic design, with balancing ring and relief holes to reduce thrust. Capacities to 1200 GPM, heads to 420 ft. Many sizes carried in factory stock.



B&G PACKAGE LIQUID COOLER

A complete cooling unit for homes, apartments, commercial and industrial buildings. Low pressure drop through evaporator—non-recycling pump down—integrated electrical control system—complete wiring—are a few of many outstanding features. Send for Bulletin HB-755.

Get rid of pump noise troubles in your cooling installations ...next time install a B&G 1522!

This pump is *really quiet*...because *both pump and motor* are equipped with long bronze sleeve bearings...and because of the noise-dampening flexible spring-type coupler.

The B&G 1522 offers an impressive number of other features for dependable, low-cost operation. The "Remite" Mechanical Seal, for example, ends leakage troubles. It's self-lubricating—harder than glass—wear-proof. The impeller is dynamically balanced for smooth, vibrationless operation... the entire bearing bracket assembly, including shaft and sleeve bearing, is interchangeable. Servicing is simple—the 1522 separates into three parts.

All these plus values cost no more—the B&G 1522 Pump is *competitively priced!* It is available as an all-iron, bronze-fitted, all-bronze or a stainless steel unit, with capacities to 150 GPM, heads to 115 ft. Available in common sizes from factory stock. Send for Catalog.

Send for your free copy of the B&G Six Step Manual for Designing Cooling Tower Systems.

BELL & GOSSETT COMPANY

Dept. EO-47, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong Ltd., 1400 O'Connor Drive, W. Toronto

Refrigeration Problems
And Their Solution

By Paul Reed

For Service and Installation Engineers

Common Names for Refrigerants

Up until about 1921, the only refrigerants in common use were ammonia, sulphur dioxide, and carbon dioxide, which are classed as "inorganic" compounds. About 1921 Roessler and Hasslacher Chemical Co. made methyl chloride, which had been in use in Europe, available throughout this country.

Methyl chloride was the first of the "halogenated hydrocarbon" refrigerants to come into popular use. Since that time all of the modern refrigerants have been of this general class. The term "halogenated hydrocarbons," popularly shortened to halocarbon, means that the basis of the refrigerants are some hydrocarbon (consisting of hydrogen and carbon) in combination with one of the halogens — chlorine, fluorine, bromine, iodine, and cyanogen, although the latter two, iodine and cyanogen are not found in refrigerants. So all of the refrigerants that consist of hydrogen, carbon, and chlorine, fluorine, or bromine, are halocarbons.

The early halocarbons, methyl chlorine, ethyl chloride, methylene chloride, etc., contained hydrogen, carbon, and chlorine in various proportions.

THE "FREONS" ARE DEVELOPED

In the late 20's the Kinetic Chemicals Co. developed a refrigerant which they called "Freon-12" and whose chemical name is dichlorodifluoromethane, consisting of one atom of carbon, two of chlorine, and two of fluorine. Although the hydrogen has been eliminated, "Freon-12" is classified as a halocarbon.

Most important, however, "Freon-12" included fluorine, which gives it certain desirable properties, particularly safety. Kinetic later developed a whole line of halocarbon refrigerants, all of which include fluorine, and which are therefore given a further classification of fluorocarbons.

Kinetic quite naturally patented these refrigerants, and as their's were the only ones on the market, the refrigeration and air conditioning industry got into the habit of almost always referring to this class of refrigerants by Kinetic's registered trade name "Freon," followed by Kinetic's number to distinguish which of the "Freons" was meant.

PATENTS EXPIRE

This was quite satisfactory; the word "Freon" was short and catchy, and served very well. However, after 17 years, Kinetic's patent ran out, so other companies started to make these fluorocarbon refrigerants. Nevertheless, a registered trade mark does not expire with a patent, so these others used their own trade marks.

This posed a problem: what "generic" term could be used to refer to dichlorodifluoromethane whether it was "Freon-12" made by Kinetic, Genetron-12 made by General Chemicals, or Arcton-6 made by Imperial Chemicals of England and merchandised in Canada? Obviously neither the long chemical names nor the chemical symbols were suitable for common usage.

ASRE ATTACKS PROBLEM

The American Society of Refrigerating Engineers appointed a committee to study the matter and try to come up with a solution. It turned out to be far from a simple matter. Several plans and synthetic names were suggested, but none proved entirely acceptable.

Finally Kinetic broke the deadlock by offering to ASRE and to the industry at large, to release their numbering system (but not their trade name), provided that the numbers be used with the word Refrigerant.

This offer was quickly accepted by the committee and approved by ASRE Council. Also the Refrigeration Service Engineers Society has accepted this designation and will use it henceforth in the All-Makes Service Manual and Educational Bulletins.

In this new standard designation method, the word Refrigerant is used instead of the trade names "Freon," Genetron, Isotron, Arcton, etc. The word Refrigerant is followed by an identifying number, and this number is the same as that used in the Kinetic system of numbering their "Freons."

For example, Refrigerant 12 refers to either "Freon-12," Genetron-12, Isotron-12 Arcton-6, etc. Refrigerant 22 refers to either "Freon-22," Genetron-141, Isotron-22, Arcton-4, etc. Next week we will show a table of interchangeability and the standard numbers for the various brands of fluorocarbon refrigerants of which we have record.

(To Be Continued)

Temprite Purchases Water Heater Firm

BIRMINGHAM, Mich.—Temprite Products Corp. has purchased EverHot Water Heater Co. of Detroit and will operate it as the EverHot Heater Div. of Temprite, according to Lud Emde, president.

Temprite, manufacturer of drinking water coolers, carbonators, liquid cooling devices, and refrigeration accessory items believes this purchase of the 37-year-old water heater firm will be advantageous.

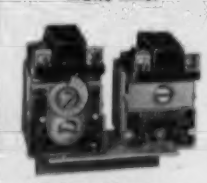
ALLEN-BRADLEY *Motor Controls and Accessories for Refrigeration and Air Conditioning*

Bulletin 709 Across-the-Line Starters

Bulletin 837 temperature control

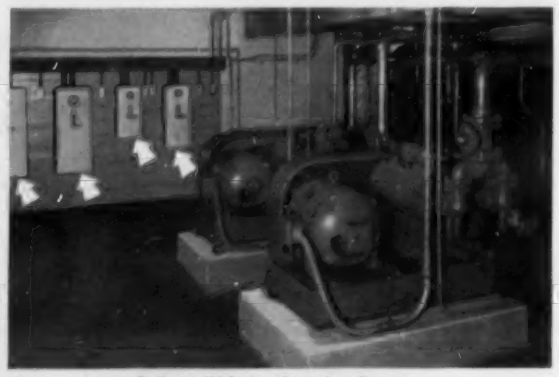
Bulletin 836 pressure switch

Bulletin 849 pneumatic timer

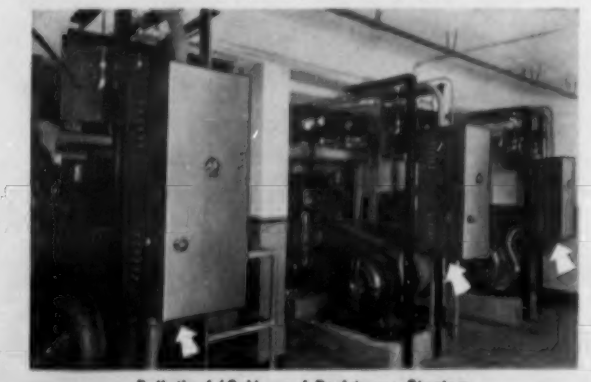


High and low pressure cutout

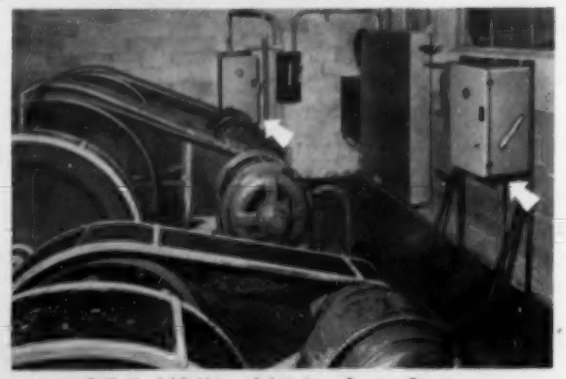
Bulletin 800 3-way selector switch



Bulletin 712 Combination Starters

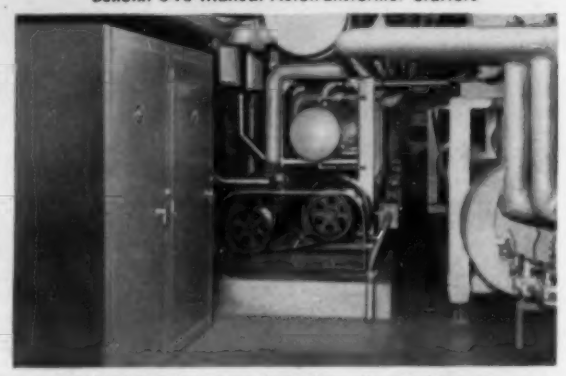


Bulletin 640 Manual Resistance Starters



Bulletin 646 Manual Autotransformer Starters

Bulletin 740 Automatic Resistance Starter



Bulletin 746 Automatic Autotransformer Starters

The Sign of Quality Motor Control

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

Allen-Bradley motor starters have the simplest contact mechanism yet devised for air-conditioning or refrigeration installations . . . only ONE moving part . . . the solenoid plunger which carries the double break contacts.

There are no trouble-causing pins, bearings, or jumpers. The cadmium silver alloy contacts never need cleaning, dressing, or filing . . . eliminating costly and troublesome maintenance.

Allen-Bradley timers, pressure and temperature switches are reliably accurate . . . precision operation is maintained over long periods of service.

Specify Allen-Bradley—the name that stands for "Quality" motor control. You cannot make a better selection!

Allen-Bradley Co.
1313 S. First St., Milwaukee 4, Wis.
In Canada—
Allen-Bradley Canada Ltd., Galt, Ont.

SUPER-FLO
FILTER-DRIER

MOLDED REMCAL DRYING
FIBERGLAS DEPTH FILTERING

Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglas depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.

REMCO INCORPORATED ZELIENOPLE, PA.

For more information about products advertised on this page use Information Center, page 26.

Amana Announces New Wholesale Outlet

AMANA, Iowa—A new distributorship to wholesale Amana freezers, freezer-plus-refrigerators, and air conditioners in northern West Virginia and southeastern Ohio has been named by Amana Refrigeration, Inc., J. A. Rishel, Jr., general sales manager, announced recently.

Twin States Appliance Co., Elm Grove, Wheeling, W. Va., will cover four Ohio counties—Jefferson, Harrison, Monroe, and Belmont, and nine West Virginia counties — Hancock, Brooke, Ohio, Marshall, Wetzel, Monongalia, Marion, Preston, and Taylor.

Officers of Twin States Appliance Co. include Ray Norteman, president; Cecil Heyman, vice president and general manager; and Paul Yates, service manager.

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

NOTICE TO SMALL FIRMS

Commanding Officer, Ships Parts Control Center, Mechanicsburg, Pa.
DISPENSER, DRINKING WATER, MECHANICALLY COOLED, Fed. DP 2532, 115 V., single phase, 60 cycle, alternating current, for hermetically sealed compressor, Spec.: MIL-R-1834C (Ships) except as modified or amplified in schedule of IFB (QPL)—400 ea.—IFB 104-435-57—Bid Opening 21 Nov. 56.

ARMY

QM Purchasing Agency, Columbus 15, Ohio.
REFRIGERATOR, MECHANICAL, HOUSEHOLD, 2 Line Items, Fed. Spec. AA-R-00211D(Army, QM)—Various Quantities—IFB 57-206B—Bid Opening 13 Nov. 56.

Ordnance Tank Automotive Command, 1501 Beard, Detroit 9, Mich.
The following are commercial items for which Government does not have drawings.
SEMI TRAILER REFRIGERATOR, 12 Ton, Single Axle, 2 Wheel, 30 ft.—4 ea.—IFB 57-944B—Bid Opening 15 Nov. 56.

Kansas City Records Center, 601 Hardesty Ave., Kansas City, Mo.
The following services are to be procured under AG-23-190-57-3.
INSTALLATION OF COMPLETE AIR CONDITIONING AND HUMIDITY CONTROL SYSTEMS—Job—IFB AG-23-190-57-3—Bid sets available 19 Oct. 56—Bid Opening 3 Dec. 56.

Purchasing and Contracting Office, Fort Eustis, Va.
REPLACEMENT OF FOUR (4) UNIT COOLERS in refrigerating plant building Nr 2813, Fort Eustis, Warwick, Va.—Job—IFB 44-019-57-54—Bid Opening 20 Nov. 56.

QM Purchasing Agency, Columbus General Depot, Columbus 15, Ohio.
CONDENSING UNIT, REFRIGERATING Mil Spec. MIL-R-10137C—21 Units—IFB 57-210B—Bid Opening 16 Nov. 56.

Contracting Officer, Fort Detrick, Frederick, Md.
INSTALLATION OF REDWOOD INDUCED DRAFT COOLING TOWERS, one (1) each on roof of Building 431 and one (1) near Building 325, Fort Detrick, Frederick, Maryland, Specs. are available—Job—IFB CML-18-064-57-76B—Bid Opening 20 Nov. 56.

QM Purchasing Agency, Columbus General Depot, Columbus 15, Ohio.
REPAIR DEFECTIVE HEATING SYSTEM, Admin. Bldg. No. 20 at Columbus Gen. Depot, Columbus, Ohio. Post Request No. 16-54—Job—IFB 57-220B—Bid Opening 5 Nov. 56.

Purchasing and Contracting, G4 Section, Fort Bragg, N. C.
INSTALLATION OF AIR CONDITIONING in two Chapels No's 17 and 14, Building No's T9-84 and T9-80, Fort Bragg, N. C., Project FB-21-57 (3A Welfare) Plan No. PE-1393—Job—IFB 31-001-57-93B—Bid Opening 9 Nov. 56.

NAVY

District Public Works Office, Sixth Naval District, Naval Base, Charleston, S. C.
DEHUMIDIFICATION, Warehouses 1121 and 1260, Marine Corps Supply Center, Albany, Ga. Ten Dollars Deposit required for plans and spec.—Job—IFB 4994-56—Bid Opening 15 Nov. 56.
IMPROVEMENTS TO AIR CONDITIONING SYSTEM, electric-electronics Bldg. 177, Naval Shipyard, Charleston, S. C. Ten Dollars Deposit required for plans and spec.—Job—IFB 6461-56—Bid Opening 20 Nov. 56.

Commandant of the Marine Corps, Washington, D. C. Code (CSG).
REFRIGERATOR, MECHANICAL, HOUSEHOLD, ELECTRICAL, self-contained, size 9 and 11, right and left hand, Type IV, Grade A, Interim Federal Spec. AA-R-00211D (Army QMC) with exception—97 ea.—IFB 102B—Bid Opening 13 Nov. 56.

AIR FORCE

Purchasing and Contracting Office, McClellan Air Force Base, Calif.
AIR CONDITIONER, 30,000 B.t.u. per hour, 1,000 c.f.m. rated capacity electric motor powered one motor used for compressor 7½ hp, a.c. 11 Lor 220 V., 60 cycle, 3 phase, one motor used for evaporating fan, ½ hp. a.c. 110 or 220 V., 60 cycles, 3 phase, one motor used for air supply fan ¼ hp., a.c. 110 or 220 V., 60 cycle, 3 phase with evaporative condenser—27 ea.—IFB 04-606-57-327—Bid Opening 7 Nov. 56.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 3, Business Service Center, 7th and D Sts., S.W., Washington 25, D. C.
COOLERS (REFRIGERATORS), Walk-in type, Sectional, etc.—25 ea.—IFB FNO-2L-4826-A—Bid Opening 11-12-56.

General Services Administration, Region 3, Business Service Center, 7th and D Sts., S.W., Washington 25, D. C.
TUBES, COOLER AND CONDENSER for Carrier Air Conditioning Units, Hard Drawn Seamless Red Brass, ASTM Spec. B-111, Tubes ⅝ in. O.D., and 0.049 in. wall thickness, 10 ft. and ⅝ in. long—4,832 ea.—IFB R2D-81503-R—Bid Opening 11-6-56.

General Services Administration, Region 7, Business Service Center, 114 Commerce, Dallas, Texas.
PLUMBING, HEATING, AND AIR CONDITIONING, Federal Office, Building, Galveston, Texas—Job—IFB CR71-410—Bid Opening 11-5-56.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta, Ga.
AIR CONDITIONING on first floor, Jacksonville, Fla.: Buick Bldg.—Job—IFB CR 4-1499—Bid Opening 11-21-56.

Business Service Center, General Services Administration, 620 Post Office and Courthouse, Boston 9, Mass.
INSTALLING NEW ELECTRIC WATER COOLER, Beebee Plains, Vt., U. S. Border Station—Job—IFB BOS-57-76—Bid Opening 11-13-56.

VETERANS ADMINISTRATION

Procurement Division, Supply Service, Department of Medicine and Surgery, Veterans Administration, Washington 25, D. C.
The following items are procured under IFB A 191-57—Bid Opening 11-6-56. (1) HANGER X RAY FILM Processing Occlusal Dental capacity 4 films, 48 ea.—(2) ILLUMINATOR PANORAMIC X RAY FILM, various sizes, 22 ea. —(3) TANK DEVELOPING RADIOGRAPHIC DENTAL REFRIGERATED 110 volt, 60 cycle, a.c., 4 ea.

CONTRACTS AWARDED THROUGH OCT. 30, 1956

General Services Administration, Region 8, Business Service Center, Denver Federal Center, Denver, Colo.
Air conditioning court facilities. Project 465—Job—$31,000—R. K. McCullough Construction Co., 676 G St., Salt Lake City, Utah. The following type of work may possibly be subcontracted, Electrical, Plumbing and Heating, and Painting.

Procurement and Contracting Office, Ardmore Air Force Base, Okla.
Air conditioning of Buildings S-201 and S-202, Projects AR 8-56 and AR 10-56 (IFB 34-610-57-3)—Job—$44,987—Walsh Engineering Co., P.O. Box 801, Sherman, Texas.

Quartermaster Purchasing Agency, Columbus General Depot, Columbus 15, Ohio.
Refrigerator, Class I, Mechanical, Commercial, IFB QM 33-031-57-16 & Amend. #1 (DA 33-031-QM-19533)—29 ea.—$86,483—Erickson Industries, Inc., Roberts, Wis.

Headquarters, Oklahoma City Air Materiel Area, Tinker Air Force Base, Okla.
Overhaul and/or Modification of Gas Turbine Assemblies and Refrigeration Components. (OC-729614 & C), and OC-729629—Job—$193,581—The Garrett Corp., AiResearch Mfg. Co. of Arizona, 402 South 36th St., Phoenix, Ariz.

General Services Administration, Region 3, Business Service Center, 7th & D Sts., S.W. Washington 25, D. C.
Refrigeration equipment (IFB 3H-66417-A)—1 lot—$40,900—Frick Co., Waynesboro, Pa.

General Services Administration, Region 7, Business Service Center, Dallas, Texas.
Air Conditioning Courtroom and Judge's Chambers, Post Office and Court House, Victoria, Texas (IFB CR7564-402)—Job—$10,449—W. R. Cook Air Conditioning, 1307 N. Louis, Victoria, Texas.

U. S. Navy Ship's Store Office, 3rd Ave. and 29th St., Post Office Drawer 12, Brooklyn 32, N. Y.
Refrigerators, N250-1446—280 ea.—$38,480—International General Electric Co., 505 Park Ave., New York, N. Y.

Base Procurement Office, United States Air Force, Eglin Air Force Base, Fla.
Installation of Air Conditioning Systems in Three Buildings (PR REFP 5728: IFB 08-603-57-96)—job—$47,671—W. Chester Williams, P.O. Box 1495, Montgomery, Ala.

Perfection Elects 3 New Vice Presidents

CLEVELAND — Election of two manufacturing vice presidents and a vice president-engineering, has been announced by William H. Haag, president, Perfection Industries Div., Hupp Corp.

Daniel N. Gredys was elected vice president in charge of engineering, H. A. Consor becomes vice president of manufacturing at the company's Cleveland plant, and John Gardner becomes vice president of manufacturing at Waynesboro, Ga.

Gredys, a chemical engineering graduate from Case Institute of Technology, joined Perfection in 1935. He has successively filled the positions of production engineer, cost reduction engineer, assistant superintendent, and—for the past five years—plant manager in Cleveland.

Consor received a mechanical engineering degree from the University of Michigan. Joining Perfection in 1946 as assistant foreman, he rose through successive promotions to become plant superintendent. For the the past year and a half he served as assistant to the president.

Gardner, a veteran of 43 years with Perfection, began work with the company in the manufacturing departments. Later he was promoted to employment manager and served as manager of industrial relations for over 10 years before going to Waynesboro, Ga. in 1955 to direct operations.

G. L. Easley Named Sales Manager at Superior Supply

KANSAS CITY, Mo. — Paul Shapiro of Superior Supply Co. here, announces the appointment of G. L. "Bud" Easley as sales manager.

G. L. Easley

Superior Supply is the exclusive wholesaler in this area for the complete Kramer - Trenton and Copeland Refrigeration Corp. lines, and other lines of parts and supplies.

Easley is a member of ASRE and this year is president of the local RSES Chapter.

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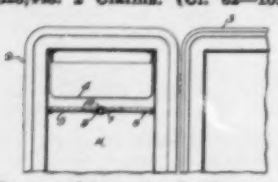
PATENTS

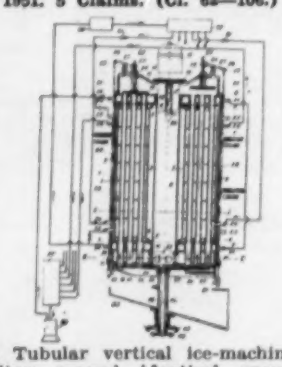
Week of June 12 (Continued)

2,749,720. DUAL PURPOSE LAMP FOR REFRIGERATOR. Si J. Williams, Jr., Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application Dec. 29, 1952, Serial No. 328,448. 2 Claims. (Cl. 62—103.)



1. In a refrigerator having an evaporator, a drip tray positioned below said evaporator so that any frost melted from said evaporator drips into said drip tray, said drip tray formed to have inclined surfaces and a drain hole at the lowest point thereof so that any water dripping into said drip tray is caused to flow to said drain hole for disposal thereof, said drip tray further formed of a material having a good thermal conductivity and formed to have an upwardly projecting depression in the under-side thereof, an electric lamp socket and conductor means connected thereto disposed partially within one portion of said depression in good thermal contact with said drip tray, an electric lamp positioned within said socket and disposed in another portion of said depression in good thermal contact with said drip tray, retaining means for retaining said lamp and said socket in good thermal contact with said drip tray, whereby said electric lamp and socket are used to illuminate the interior of said refrigerator and to heat said drip tray when any frost is melted from said evaporator to prevent the formation of ice upon said drip tray.

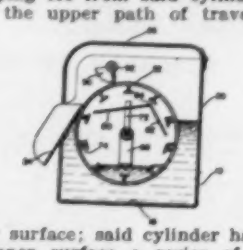
2,749,721. ICE MACHINE. Georges Trepaud, Paris, France. Application May 13, 1952, Serial No. 287,483. Claims priority, application Netherlands May 23, 1951. 5 Claims. (Cl. 62—106.)



1. Tubular vertical ice-machine, including several identical groups of freezing pipes, an insulating casing arranged round each group, a cold producing source, a heat producing source, means to connect said sources with each of said casings, an upper compartment and a lower compartment into which open respectively the two ends of the freezing pipes, discvalves in the upper compartment above each of said groups of freezing pipes respectively, the lower compartment including cells, the number of which is the same as the number of groups, a central and cylindrical return tube, connecting the upper compartment and the lower compartment, means to produce a forced circulation of the liquid to be congealed set on the axis of said return tube, a driving motor outside the ice-machine, a shaft connecting said means to said motor, a revolving distributor constituted by a table having bores in prolongation of the freezing pipes of a group, a cam adapted to actuate the means controlling the disc-valves, a central shaft bearing said plate, a cylindrical central socket provided with apertures, the number of which is equal, but one, to the number of the groups on the other face of the table, a cylindrical recess in the lower compartment in the prolongation of the central tube, an aperture for each cell in the wall of this recess, the socket of the distributor being set with an easy fit in said recess and their apertures being superposable, a pinion on the central shaft to impart to the distributor a discontinuous motion so that each group successively passes opposite the holes of the lower compartment.

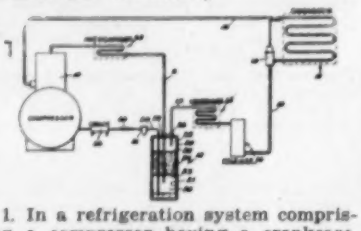
2,749,722. APPARATUS FOR MAKING ICE IN SMALL PIECES. Frank W. Knowles, Seattle, Wash. Application Sept. 19, 1952, Serial No. 310,446. 8 Claims. (Cl. 62—106.)

1. In combination, ice-making apparatus, comprising: a tank to contain water to be frozen; a cylinder rotatably mounted in said tank with its axis horizontal and positioned in partial immersion in the water in the tank; means including a nozzle to deliver refrigerant to the upper inner portion of said cylinder to form ice on its outer surface; means for rotating said cylinder in a continuous manner whereby ice formed on the outer cylinder surface is constantly being elevated to above the surface of water in the tank; means for continuously stripping ice from said cylinder adjacent the upper path of travel of its



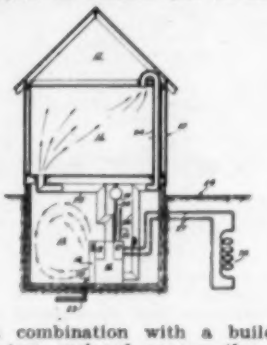
outer surface; said cylinder having on its inner surface a series of circumferentially spaced instanding and invertible liquid refrigerant carrier members extending between the ends of the cylinder to receive liquid refrigerant and carry the same within said cylinder in close proximity with the coating of ice on the cylinder as the same is being formed and elevated from the water in the tank; and a generally horizontally disposed nonmovable baffle plate in the upper portion of said cylinder to receive refrigerant from said nozzle and elevators, said plate being of substantial width and having its edges located adjacent the ascending and descending walls of the cylinder to laterally distribute the refrigerant to the carriers and the cylinder walls.

2,749,723. OIL SEPARATOR FOR REFRIGERATION SYSTEM. Robert C. Webber, Indianapolis, Ind. Application Oct. 15, 1953, Serial No. 386,207. 2 Claims. (Cl. 62—117.75.)



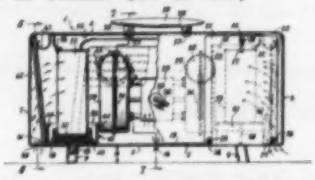
1. In a refrigeration system comprising a compressor having a crankcase, an inlet and a discharge, a condenser, conduit means for conducting compressed refrigerant from said compressor discharge to said condenser, an evaporator, conduit means for conducting condensed refrigerant from said condenser to said evaporator, and conduit means for conducting evaporated refrigerant from said evaporator to said compressor inlet, the invention of means for separating lubricant from the compressed refrigerant and for returning it to the compressor crankcase, such means comprising a body having a chamber therein, said first-named conduit means including a pipe communicating with said compressor discharge and entering said chamber and terminating in an open end within said chamber, and another pipe communicating with said condenser and entering said chamber and terminating in an open end within said chamber, filter means disposed in said chamber and interposed between the open ends of said pipes, and a continuously-open tube having one end disposed in said chamber below both said open pipe ends, extending upwardly through said chamber, and having its other end opening into said compressor crankcase.

2,749,724. HEAT PUMP SYSTEM. William F. Borgerd and Mack M. Jones, Evansville, Ind., assignors, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application April 20, 1953, Serial No. 349,594. 19 Claims. (Cl. 62—129.)



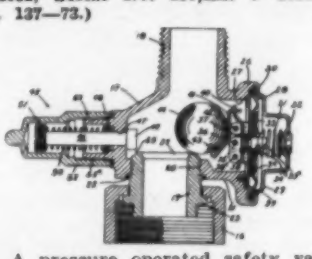
1. In combination with a building having two enclosed spaces, the first of said spaces having a substantially greater heating and cooling load than the second of said spaces, a heat pump mounted in said second space, said heat pump comprising two compartments, and air-refrigerant heat exchanger mounted within the first of said two compartments, means mounted within said first compartment for circulating air from said second space through said air-refrigerant heat exchanger, a duct system connecting the second of said two compartments to said first space, a second air-refrigerant heat exchanger mounted within said second compartment, means mounted within said second compartment for circulating air from said first space through said second air-refrigerant heat exchanger, said second air-refrigerant heat exchanger having a substantially greater capacity than said first air-refrigerant heat exchanger, tubing means connecting the refrigerant portions of said first and second air-refrigerant heat exchangers in series, means selectively operable to one position for supplying a gaseous refrigerant to said refrigerant portion of said second heat exchanger and for drawing liquid refrigerant from said refrigerant portion of said first heat exchanger, whereby said gaseous refrigerant supplied to said second heat exchanger is condensed therein to heat the air passing therethrough, and the condensed refrigerant then being supplied to said first heat exchanger wherein the liquid refrigerant is cooled to heat the air passing therethrough, said last mentioned means selectively operable to another position for supplying cooled liquid refrigerant to said refrigerant portion of said first heat exchanger and for drawing gaseous refrigerant from said refrigerant portion of said second heat exchanger, whereby said cooled liquid refrigerant supplied to said first heat exchanger is heated therein to cool the air passing therethrough and the liquid refrigerant then being supplied to said second heat exchanger wherein the liquid refrigerant is evaporated to cool the air passing therethrough.

2,749,725. PORTABLE AIR CONDITIONING APPARATUS. Eldon F. Essman and Lavern D. Kascel, Dubuque, Iowa, assignors to Eska Co., Dubuque, Iowa, a corporation of Iowa. Application Dec. 6, 1955, Serial No. 551,439. 16 Claims. (Cl. 62—131.)



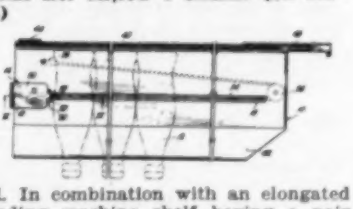
2. Air conditioning apparatus, comprising: a cabinet having spaced-apart air inlet openings for air to be conditioned, and having spaced-apart outlet openings for air that has been conditioned; a plurality of sealed refrigerant containers in said cabinet, each disposed in said cabinet between an inlet and an outlet opening; and a pair of blowers in said cabinet disposed between said refrigerant containers, each of said blowers having an inlet adjacent to but spaced from its associated refrigerant container and having an outlet in registration with an outlet opening of said cabinet.

2,749,926. MANUALLY RESETTABLE PRESSURE OPERATED VALVE. Earnest J. Dillman, Detroit, Mich., assignor to Detroit Controls Corp., a corporation of Michigan. Application July 3, 1952, Serial No. 297,121. 9 Claims. (Cl. 137—73.)



1. A pressure operated safety valve comprising a valve casing having an inlet and an outlet, a valve seat in said casing, a spherical valve member in said casing normally positioned laterally from said valve seat in an open position, an abutment restraining said valve member from lateral movement toward closed position, a lever positioned for engagement with the lower surface of said valve member, and pressure responsive means operatively connected to said lever for moving the same, said pressure responsive means being operable at a predetermined pressure in said casing to move said lever to engage said valve member along the lower surface thereof to cause said valve member to pivot over said abutment into closed position against said valve seat.

2,750,049. VENDING MACHINE SHELF HAVING BOTTLE FEEDING MECHANISM. Charley W. Hunter, Kansas City, Mo., assignor to Vendo Co., Kansas City, Mo., a corporation of Missouri. Application Aug. 16, 1954, Serial No. 449,964. 4 Claims. (Cl. 211—49.)



1. In combination with an elongated vending machine shelf having a pair of ends, said shelf being provided with a longitudinally extending, relatively narrow slot therein and a notch having a shoulder near one of said ends, said notch extending laterally from the slot, said shelf being adapted to support a plurality of vendible articles thereon, the improvement which comprises a substantially L-shaped follower provided with an upright article pusher and an article-receiving leg slidably overlying the shelf; means on said leg extending through the slot and loosely engaging the shelf for restricting displacement of the leg rela-

(Continued on next page)

For more information about products advertised on this page use Information Center, page 26.

PATENTS

(Continued from preceding page)

tive to the shelf whereby the follower is reciprocable along said slot and limitedly tippable with respect to the shelf; means coupled with said leg for urging the follower toward the opposite end of the shelf; and latch means rigidly mounted on said leg, said latch means being engageable with said shoulder when the follower is near said one end and tipped with respect to the shelf to hold the follower in a locked position, whereby when an article is placed on the leg in said locked position the weight thereon tips the follower to release the latch means from engagement with said shoulder.

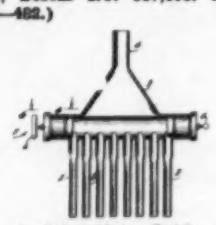
2,750,041. REFRIGERANT DRYING CARTRIDGE. Herman Meyer, Forest Hills, N. Y. Application Sept. 20, 1954, Serial No. 457,172. 11 Claims. (Cl. 210—131.)

1. A dehydrating cartridge comprising a container and a reversibly acting physical adsorbent or moisture and an irreversible chemical adsorbent for moisture in the container.

2,750,065. REFRIGERATOR CABINET CONSTRUCTION. Ralph E. Wallenbrock, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application April 7, 1953, Serial No. 347,216. 5 Claims. (Cl. 220—15.)

1. In a refrigerator cabinet, an outer shell, a liner positioned within said outer shell, insulation disposed between said liner and said outer shell, said outer shell having an inwardly opening U-shaped flange formed at the upper edge thereof, said liner having an outwardly opening U-shaped flange formed at the upper edge thereof a breaker strip positioned within said flanges, said breaker strip being formed in two portions, the first of said portions having one longitudinal edge thereof positioned within the outer shell flange, the second of said portions having one longitudinal edge thereof positioned within the liner flange, the other longitudinal edge of said first portion being formed as an upwardly facing rabbet cut, the other longitudinal edge of said second portion being formed as a downwardly facing rabbet cut, whereby said other longitudinal edges of said first and second portions cooperate to form a rabbet joint, a plurality of fasteners mounted through said joint to maintain said first and second portions secured together, said lower portions of said flanges further formed to have a series of burrs projecting upward therefrom into said first and second portions, whereby said first and second portions are secured within said flanges.

2,750,083. MULTIPLE OUTLET ICE CREAM DISPENSER. Stanley Overland, Brooklyn, N. Y. Application Feb. 18, 1953, Serial No. 337,606. 3 Claims. (Cl. 222—482.)



1. A multi-outlet fluid dispenser adapted for use with a continuous freezer and for uniform flow of fluid in each outlet comprising a cylindrical header having an inlet horn opening and a plurality of spaced-apart linearly disposed outlet openins opposed to said inlet opening, and a removably secured piston end closure comprising a compressible cylinder disposed between two fixed discs, a partially exteriorly threaded tube having an exterior smooth wall portion engaging said fixed discs and said compressible cylinder and being interiorly threaded throughout its tube length, a locking disc having a threaded aperture therethrough engaging the exterior threaded portion of said tube to compress said compressible cylinder to effect frictional locking engagement of said cylinder with the interior wall of said cylindrical header, and means having a piston disc secured thereto disposed in said header and movable over the opening of an adjacent exterior outlet opening in said header.

(To Be Continued)

13 NEMA Firms Sell 2,301,195 Refrigerators In First 7 Mos.

Summary for July and First Seven Months, 1956

Complete Electric Household Refrigerators Only—Sales by Sizes—Units

JULY (13 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 3 cu. ft. (3.4 & under)..	....	....	....	....
2. 4 cu. ft. (3.5 to 4.4)....	2,414	9	8	2,431
3. 5 cu. ft. (4.5 to 5.4)....	....	....	....	....
4. 6 cu. ft. (5.5 to 6.4)....	662	....	....	662
5. 7 cu. ft. (6.5 to 7.4)....	1,158	544	139	1,841
6. 8 cu. ft. (7.5 to 8.4)....	46,574	1,353	8,167	56,094
7. 9 cu. ft. (8.5 to 9.4)....	9,979	1,175	4,818	15,972
8. 10 cu. ft. (9.5 to 10.4)..	71,161	656	4,889	76,706
9. 11 cu. ft. (10.5 to 11.4).	57,960	881	3,478	62,319
10. 12 cu. ft. (11.5 to 12.4).	72,127	113	933	73,173
11. 13 cu. ft. (12.5 to 13.4).	14,723	26	476	15,225
12. 14 cu. ft. (13.5 & over).	27,016	171	306	27,493
13. Total	**303,774**	**4,928**	**23,214**	**331,916**
Refrigerators Having Two Exterior Doors (All Sizes Included In Above).....	**68,972**	**281**	**461**	**68,814**

FIRST SEVEN MONTHS (13-12 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 3 cu. ft. (3.4 & under)..	....	....	....	....
2. 4 cu. ft. (3.5 to 4.4)....	9,798	10	78	9,886
3. 5 cu. ft. (4.5 to 5.4)....	35	....	....	35
4. 6 cu. ft. (5.5 to 6.4)....	4,941	...	33	4,974
5. 7 cu. ft. (6.5 to 7.4)....	40,222	5,086	5,571	50,879
6. 8 cu. ft. (7.5 to 8.4)....	332,726	5,717	70,257	408,700
7. 9 cu. ft. (8.5 to 9.4)....	98,385	8,299	13,038	119,722
8. 10 cu. ft. (9.5 to 10.4)..	407,824	14,776	29,640	452,240
9. 11 cu. ft. (10.5 to 11.4).	423,730	9,466	19,859	453,055
10. 12 cu. ft. (11.5 to 12.4).	502,414	4,392	13,936	520,742
11. 13 cu. ft. (12.5 to 13.4).	115,901	1,116	2,780	119,797
12. 14 cu. ft. (13.5 & over).	153,875	2,250	5,040	161,165
13. Total	**2,089,851**	**51,112**	**160,232**	**2,301,195**
Refrigerators Having Two Exterior Doors (All Sizes Included In Above).....	**423,261**	**5,445**	**11,326**	**440,032**

Participating companies: Admiral Corp.; Crosley & Bendix Home Appliances Div., Avco Mfg. Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., a Div. of General Electric Co.; Kelvinator Div., American Motors Corp.; Maytag Co., The (in 4-1-56); Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Servel, Inc.; Westinghouse Electric Corp.; Whirlpool-Seeger Corp.

18 NEMA Firms Sell 408,752 Freezers In First 7 Months of '56

Summary for July and First Seven Months, 1956

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen foods.

JULY (18 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 6 cu. ft. (6.4 & under)				
Chest Models	*	*	*	*
Upright Models	*	*	*	*
2. 7 & 8 cu. ft. (6.5 to 8.4)				
Chest Models	*2,273	*20	*17	*2,310
Upright Models	*141	*8	*4	*153
3. 9 & 10 cu. ft. (8.5 to 10.4)				
Chest Models	*1,639	*35	*24	*1,698
Upright Models	*	*	*	*
4. 11 & 12 cu. ft. (10.5 to 12.4)				
Chest Models	*	*	*	*
Upright Models	*7,402	*15	*101	*7,518
5. 13 & 14 cu. ft. (12.5 to 14.4)				
Chest Models	*4,182	*54	*81	*4,317
Upright Models	7,224	15	66	7,305
6. 15 cu. ft. (14.5 to 15.4)				
Chest Models	10,288	325	65	10,678
Upright Models	*	*	*	*
7. 16 & 17 cu. ft. (15.5 to 17.4)				
Chest Models	5,498	....	7	5,505
Upright Models	*4,869	*11	*7	*4,887
8. 18 & 19 cu. ft. (17.5 to 19.4)				
Chest Models	2,827	41	9	2,877
Upright Models	11,147	24	33	11,204
9. 20 & 21 cu. ft. (19.5 to 21.4)				
Chest Models	7,033	166	23	7,222
Upright Models	*	*	*	*
10. 22 cu. ft. (21.5 & over)				
Chest Models	739	19	10	768
Upright Models	*2,458	*1	*6	*2,465
Total Chest Models	**34,479**	**660**	**236**	**35,375**
Total Upright Models.	**33,241**	**74**	**217**	**33,532**
Total All Models	**67,720**	**734**	**453**	**68,907**

FIRST SEVEN MONTHS (20-18 Companies)

Sizes	Domestic	Canadian	Foreign	Total
1. 6 cu. ft. (6.4 & under)				
Chest Models	*	*	*	*
Upright Models	*	*	*	*
2. 7 & 8 cu. ft. (6.5 to 8.4)				
Chest Models	*14,508	*193	*452	*15,153
Upright Models	*2,353	*80	*87	*2,500
3. 9 & 10 cu. ft. (8.5 to 10.4)				
Chest Models	8,514	289	172	8,975
Upright Models	*	*	*	*
4. 11 & 12 cu. ft. (10.5 to 12.4)				
Chest Models	*	*	*	*
Upright Models	*45,121	*976	*844	*46,941
5. 13 & 14 cu. ft. (12.5 to 14.4)				
Chest Models	*47,810	*698	*2,141	*50,649
Upright Models	46,336	533	765	47,634
6. 15 cu. ft. (14.5 to 15.4)				
Chest Models	49,450	1,552	719	51,721
Upright Models	*	*	*	*
7. 16 & 17 cu. ft. (15.5 to 17.4)				
Chest Models	28,582	53	104	28,739
Upright Models	*31,901	*129	*138	*32,168
8. 18 & 19 cu. ft. (17.5 to 19.4)				
Chest Models	17,736	148	212	18,096
Upright Models	46,480	155	308	46,943
9. 20 & 21 cu. ft. (19.5 to 21.4)				
Chest Models	35,375	1,104	155	36,634
Upright Models	*	*	*	*
10. 22 cu. ft. (21.5 & over)				
Chest Models	5,209	83	65	5,357
Upright Models	*17,197	*9	*36	*17,242
Total Chest Models....	**207,184**	**4,120**	**4,020**	**215,324**
Total Upright Models.	**189,388**	**1,862**	**2,178**	**193,428**
Total All Models	**396,572**	**5,982**	**6,198**	**408,752**

*Indicates data has been combined in other size categories.

Participating companies: Admiral Corp.; Ben-Hur Mfg. Co.; Carrier Corp.; Crosley & Bendix Home Appliances Div., Avco Mfg. Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; Kelvinator Div., American Motors Corp.; Maytag Co., The; Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Revco, Inc.; Sub-Zero Freezer Co., Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Whirlpool-Seeger Corp.; Wilson Refrigeration, Inc.; Servel, Inc. (out 3-1-56).

NEMA Reports 2.7% Refrigerator Sales Gain In July; 7-Mo. Sales Top 2 Million

(See Tables In Columns 2 and 3)

NEW YORK CITY—A 2.7% gain in household refrigerator sales and a 5.2% drop in home freezer sales during July were reported by manufacturers submitting figures to the National Electrical Manufacturers Association.

Thirteen manufacturers of refrigerators reported sales of 331,916 units during the month as compared with 323,240 units in July last year.

Their sales for the first seven months of the year topped the 2 million mark at 2,301,195, 11% below the same period last year.

July sales within the United States moved up .7%. Sales to Canada fell 25.5%, while those to other foreign countries rose 54.9% over July 1955.

Domestic sales for the seven months were 12.3% behind 1955, while sales to Canada climbed 13.5%, and to other foreign countries 1.4%.

The eighteen reporting freezer manufacturers sold 68,907 units in July and 408, 752 in the first seven months. The seven months total was 8.7% below last year.

July freezer sales were down 4% in the United States, 51.5% to Canada, and 33.8% to other foreign countries. For the seven months, sales were down 7.2% in the United States, 47.5% to Canada, and 30.2% to other countries.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

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POSITIONS WANTED

SERVICE REPRESENTATIVE, preferably with manufacturer. Service experience with residential and commercial Frigidaire service organization. Nine years self-employed, past six years doing solely commercial and truck refrigeration. Am 31 years of age, will travel in the Midwest. BOX A5663, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

OPPORTUNITY FOR manufacturer's representative: To increase your earnings, sell a full line of freezers, beverage coolers, display cases, dual temperature reachins and walkins. We manufacture a quality line to meet competition. Territories now available, write HOWARD REFRIGERATOR CO., INC., 4475 Worth Street, Philadelphia 24, Pa.

SALES ENGINEER with engineering background in refrigeration and air conditioning. Replies held in confidence. State age and experience. KNICKERBOCKER ENGINEERING CO. Box 509, Parkersburg, West Virginia.

WANTED IN Southern California competent refrigeration and air conditoning engineers, draftsmen and refrigeration fitters. Due to serious labor shortage the Refrigeration and Air Conditioning Contractors Association of Southern California has undertaken the responsibility of recruiting employees for members of the Association. Upon your inquiry setting forth general type of work we will forward to you an appropriate questionnaire. REFRIGERATION AND AIR CONDITIONING CONTRACTORS ASSOCIATION OF SOUTHERN CALIFORNIA, INC., 453 South Spring Street, Los Angeles 13, California.

MANUFACTURER'S REPRESENTATIVE to sell special items of commercial refrigeration, which will be fill in items for established dealers. Territory, New York, Pennsylvania, Midwestern or Southwestern states. THE C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

SALES ENGINEERS experienced in small and large commercial and industrial air conditioning refrigeration equipment are required for expanded operations in Chicago and other Midwest sales offices. Some travel involved. Expenses, salary, and incentive. Apply only by letter giving full details as to background and experience. Replies confidential. Write T. J. Fyock, Personnel Manager, WESTINGHOUSE ELECTRIC CORPORATION, P.O. Box 510, Staunton, Virginia.

SALES REPRESENTATIVE wanted, age no barrier, for sale of new development in the air conditioning field to jobbers. This new product is one of the three major components of the refrigeration cycle and will completely change existing conventional field practice. It is extremely saleable and will reward a hard-hitting individual with above average earnings on a liberal commission basis. Exclusive protected territories. Previous experience in air conditioning, refrigeration, plumbing, or heating industries desirable but not essential. Engineering background helpful. The company offering this product is now the leading manufacturer of one of the three major components of the refrigeration system. Write now, giving us personal details as well as present activity to BOX A5659, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE by a small, stable company providing horizontal, vertical and remote air-cooled residential air conditioners. Units are attractively priced and small remote unit is ideal for new home construction. Liberal commission paid to able salesman. Write BOX A5670, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

OUR PRICES have not gone up—Ajax Electric Iceman—Complete new parts stock available. Immediate delivery. Many prices under factory list. Write for price list, AJAX PHILADELPHIA, INC., 3617-25 Lancaster Ave., Philadelphia 4, Pa.

THOUSANDS OF air conditioners are now equipped with Kesco automatic condensate water disposal pumps available at your local wholesalers in 10 and 20 foot heads 110 or 220 volts only 9" high, water inlet 5 inches from floor. Wholesalers write to KESCO PRODUCTS, P. O. Box 84, Springfield Gardens 13, New York.

GUARANTEED BRAND new condensing units at special closeout prices! S84LE or S88LE ¼ h.p. $34.40, S64LE ⅓ h.p. $36.00, K3S1S ¼ h.p. $44.50. Motor compressor domes—S88 ¼ h.p. $29.50, S64 ⅓ h.p. $31.00, S54 ½ h.p. $32.00, S34 ⅓ h.p. $35.00, S2S16 ⅓ h.p. $43.00, B1516 1 h.p. $55.00, B32F16 1½ h.p. $60.00. Many other sizes and models at tremendous discounts. Order today or send for our special bulletins. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y.

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WANTED: RELIABLE and capable distributors for our air conditioning and refrigerating equipment. Good territories available. Full line of compressors, condensers, coils, coolers, controls, valves and fittings, pressure vessels, etc. Contracts include repairs and spare parts for equipment now in use. Profitable account. Address Department B, FRICK COMPANY, Waynesboro, Pennsylvania. Refrigeration Engineering Pioneers since 1882.

WANTED:—PRODUCTS or new product ideas that can be sold restaurant and institutional markets by reputable manufacturer with national dealer selling organization. Royalty or outright purchase. Confidential. Write BOX A5653, Air Conditioning & Refrigeration News.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR; 2833 Lincoln Avenue, Chicago 13, Illinois.

ASRE Program for Boston Meeting--

(Concluded from Page 1, Col. 3)

ture," Tamami Kusuda, research engineer, Research & Development Section, Air Conditioning & Refrigeration Div., Worthington Corp.

"Wire and Tube Condensers," Dr. O. W. Witzell, associate professor, and Prof. W. E. Fontaine, Purdue university.

Field Installation Practices and Problems Conference

Chairman: H. G. Strong, executive secretary, Refrigeration Industry Safety Advisory Committee.

"Hermetic Compressor Protection and the National Electric Code," Karl M. Gerteis, manager, Compressor Development Dept., Carrier Corp.

"Safety Code Field Problems and Interpretations," J. R. Chamberlain, chairman, ASA B9.1, Interpretations Sub-committee, chief engineer, industrial, York Div., Borg-Warner Corp.

"Field Safety Problems," Wayne G. Henderson, superintendent, Engineering & Loss Control Div., Travelers Compensation & Liability Indemnity Co.

"Field Inspection Problems," Frank J. Drogosch, chief safety engineer, Dept. of Buildings & Safety Engineering, City of Detroit.

"Contractor Field Problems," Austin Ford, director, Mechanical Contractors Association, Jarvis Engineering Co.

"Electrical Field Problems from the Power Company Viewpoint," John M. Turnbull, power consultant, Western Massachusetts Electric Co.

MONDAY P.M., NOV. 26

Second Technical Session

"Applications of the Mercury Jet Switch," W. R. Davis, group leader, Research Dept., Detroit Controls Corp.

"How Cycling Rate Affects Humidity Control," J. E. Janssen, research engineer, and Dr. P. E. McNall, Jr., Research Section head, Minneapolis-Honeywell Regulator Co.

"How Power Usage Varies for Summer Air Conditioning of Identical Residences," R. A. Gonzalez, staff assistant to the vice president in charge of sales, Airtemp Div., Chrysler Corp.

TUESDAY A.M., NOV. 27

Third Technical Session

"Emissivity of Ice, Snow, and Frozen Ground," R. V. Dunkle, associate professor of mechanical engineering, J. T. Gier, associate professor of electrical engineering, and J. T. Bevans, junior research engineer, University of California.

"Cooling Tower Evaluation and Rating Chart," John Engalitcheff, Jr., president, Baltimore Aircoil Co., Inc.

"How Frost Formation on Coils Affects Refrigeration Systems," W. F. Stoecker, assistant professor of mechanical engineering, University of Illinois.

Domestic Refrigerator Engineering Conference

Subject: "New Developments in Thermal Insulation for Household Refrigerators and Freezers." Chairman: P. H. Lawrenz, administrative engineer, American Motors Corp.

"Mineral Fiber," E. D. Cox, staff manager, Johns-Manville Corp.

"Fiberglas," F. C. Wilson, manager, Owens-Corning Fiberglas Corp.

"Styrofoam," William Schock, Plastic Sales Div., Dow Chemical Co.

"Expandable Polystyrene Beads," E. A. Edberg, manager, Dylite Expandable Polystyrene Market Development, Koppers Co., Inc.

"Phenolic Foams," R. H. Sterling, Westinghouse Electric Corp.

"Polyurethanes," C. M. Barringer, E. I. du Pont de Nemours & Co., Inc.

TUESDAY P.M., NOV. 27

Six Technical Forums

Sponsored by ASRE General Technical Committee: Vice-Chairman: T. J. Ammel, sales engineer, Contract Dept., Kelvinator Div., American Motors Corp.

1. "Hermetic Compressor Design for Household Refrigerators and Freezers, Up To and Including ⅓ Hp." Moderator: C. F. Alsing, design engineer, Westinghouse Electric Corp.

2. "Remote Type Air-Cooled Condensers." Moderators: W. F. Spiegel, C. S. Leopold

3. "Food Sterilization, Pasteurization, and Preservation by Radiation." Moderator: E. N. Johnson, Swift & Co.

4. "Alcohol in Refrigerating Systems." Moderator: F. C. Peck, chief engineer, Ranney Refrigerator Co.

5. "New Developments in Corrosion Preventing Finishes." Moderator: C. O. Hutchinson, sales manager, Nubian Div., The Glidden Co.

6. Pros and Cons of Air Heating and Cooling Systems vs. Liquid Heating and Cooling Systems for Residential Applications. Moderator: R. S. Herbst, product engineering, General Electric Co.

WEDNESDAY A.M., NOV. 28

Fourth Technical Session

"Solubility and Viscosity Characteristics of Mixtures of Lubricating Oils and 'Freon-13' or '-115,'" L. F. Albright(associate professor of chemical engineering, Purdue university, and A. S. Mandelbaum, Atlantic Refining Co.

"Capillary Two-Phase Flow," H. A. Whitesel, chief engineer, Research & Advanced Study, Amana Refrigeration, Inc.

"Behavior of Refrigerant Oils and Genetron-141," Prof. W. O. Walker, director, Industrial Chemical Research, A. A. Sakhnovsky, research assistant professor, and Shelvin Rosen, research instructor, Industrial Chemical Research Laboratory, University of Miami.

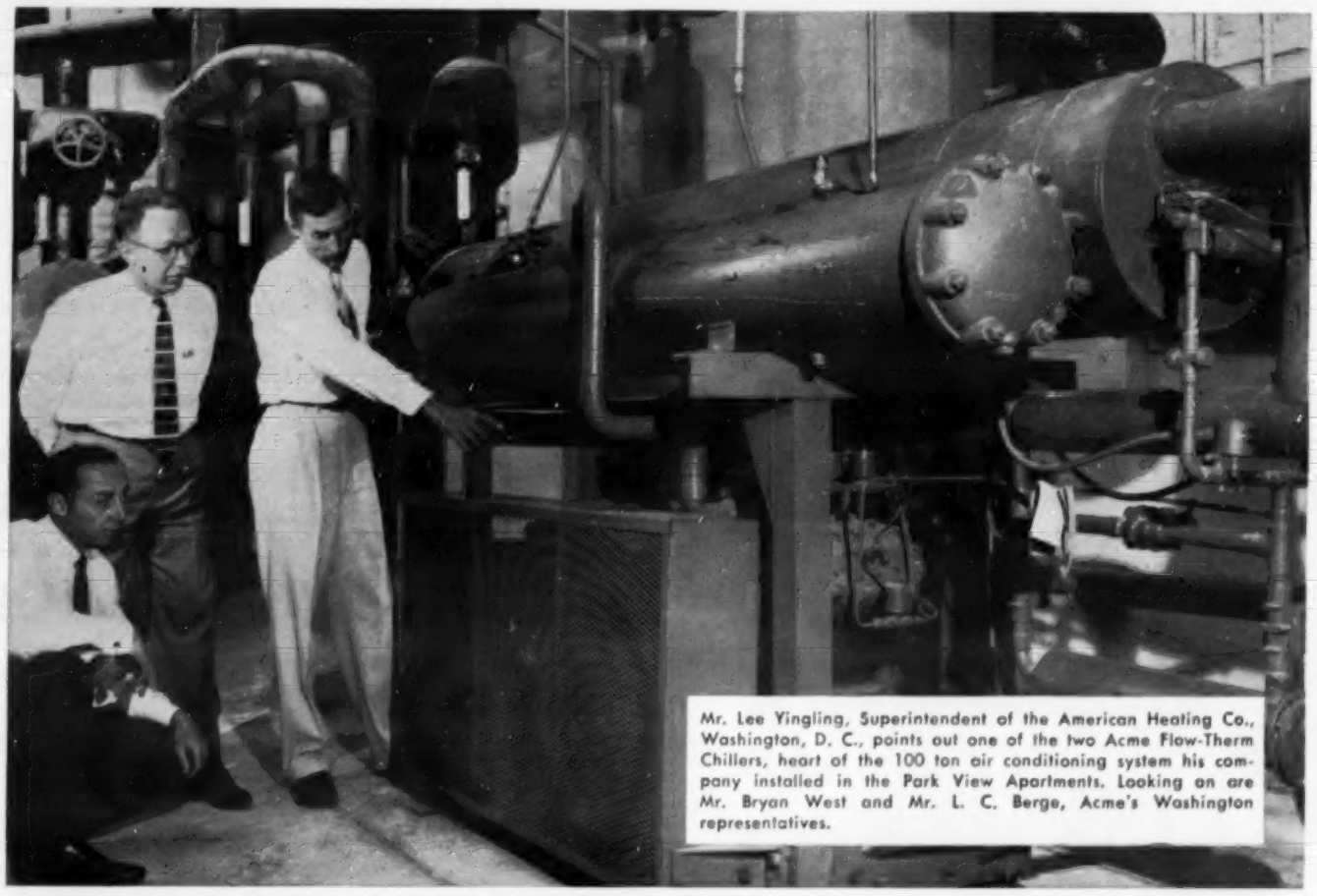
Air Conditioning Conference

Subject: In-The-Wall Units Vs. Central Systems for Apartment Houses. Chairman: J. D. Loveley, vice president in charge of engineering, Airtemp Div., Chrysler Corp.

Speakers: Paul W. Wyckoff, chief engineer, Airtemp Div.; John P. Soule, manager, Comm. Heating & Cooling Systems, American Radiator & Standard Sanitary Corp.; R. A. Bean, national sales representative, General Electric Co.

One of the major attractions of the meeting will be the Technical Research Exhibit, it was stated.

According to O. J. Spawn, du Pont Research Exhibit Committee Chairman, the exhibits will include two new principles of refrigeration—the electronic refrigerator—developed by RCA Laboratories, and a magnetic refrigerator, by Arthur D. Little, Inc.



Mr. Lee Yingling, Superintendent of the American Heating Co., Washington, D. C., points out one of the two Acme Flow-Therm Chillers, heart of the 100 ton air conditioning system his company installed in the Park View Apartments. Looking on are Mr. Bryan West and Mr. L. C. Berge, Acme's Washington representatives.

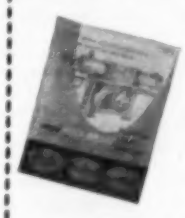
Acme FLOW-THERM® ...the packaged chiller with CERTIFIED DEPENDABILITY

To insure the popularity of their new Park View Apartments in Washington, D. C., Dan Pollin, Inc., insisted on an air conditioning system that would deliver full capacity for peak loads throughout Washington's long cooling season. General Engineering Associates, consulting engineers for architects Berla and Abel, specified an Acme Flow-Therm as the packaged chiller with proven dependability — and one that is compact and economical to install.

In addition to the normal factory tests for leaks and mechanical defects, all Acme packaged chillers are tested under full load conditions before leaving the factory. Every unit must perform satisfactorily at its nominal rating. Your guarantee of this tested operation is the new Acme Certificate of Performance, a "first" in the industry. To the engineer and contractor who specify and install Acme equipment this means certified dependability.

With Acme you get a more complete range of models, with capacities to fit exact job requirements. This is possible because the Flow-Therm's chief components, famous Dry-Ex Chiller and Shell-and-Tube Condenser, can be tailor-made to match compressor performance exactly — combine operating economy with maximum capacity. The Flow-Therm is the most completely engineered packaged unit in its capacity range. All controls — electrical and mechanical — are supplied complete and ready for simple installation.

Acme Certificate of Performance issued on all Flow-Therm and Flow-Cold packaged liquid chillers, 3 through 150 tons.



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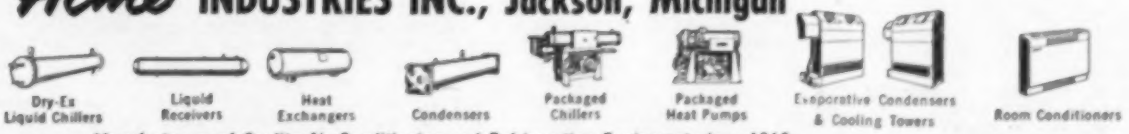
Acme INDUSTRIES INC., Jackson, Michigan



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Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919

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